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ABSTRACT

This report identifies the range and extent of innovative workplace practices in place among 16 international organizations participating in the International Workplace Studies Program (IWSP). Information comes from interviews with organization representatives, written reports, summaries prepared by the organizations, and an extensive literature search. The report is organized by three primary sections: flexible work scheduling, flexible staffing, and flexible work locations. Each section defines the new working practice and describes a range of different alternatives available under it. Where available, demographics for the flexible work practices are provided for the United States, European Community countries, and Japan. They include incidence of the flexible practice among corporations and the work force, incidence according to business type, and incidence by job types. An example is provided of a sponsor initiative for each flexible practice that describes a program implemented at one or more IWSP sponsor organization(s). A sponsor comparison and cultural implications section is included for each flexible work practice. Finally, each section discusses the implications to facility/facility management to address issues that arise as a result of implementation of the flexible work practices. A conclusion is followed by appendixes, including IWSP sponsor descriptions, literature search methodology, flexible scheduling and staffing participation rates, directives, and regulations and a 66-item bibliography. (YLB)

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ED 418 278

Workscape 21

The Ecology of New Ways of Working

New Working Practices

Benchmarking Flexible Scheduling, Staffing, and Work Location in an International Context

Franklin Becker
Kristen L. Quinn
Andrew J. Rappaport
William R. Sims

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International Workplace Studies Program

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Foreword

The International Workplace Studies Program, formerly the International Facility Management Program, is a research program based at Cornell University in Ithaca, New York. The program is supported by a consortium of private and public sector organizations in the United States, United Kingdom, Europe, and Japan, and was launched in 1989. The IWSP mission is to generate research-based information related to the planning, design, and management of facilities that can contribute to the development of more competitive and effective organizations.

Executive Summary

Introduction

New Working Practices: Benchmarking Flexible Scheduling, Staffing, and Work Location in an International Context is a benchmarking study of the sixteen international organizations participating in the International Workplace Studies Program (IWSP) supplemented by an extensive literature review. The study focuses on workplace innovations that afford employees flexibility in terms of how, when, and where they work. This report represents one study in a series of projects conducted by the IWSP as part of its *Workplace 21: The Ecology of New Ways of Working* research consortium.

Objectives

The IWSP New Working Practices study addressed the following questions:

- What is the range of types of innovative workplace practices currently in place in our sponsor organizations?
- How widespread are these new working practices?
- Does the occurrence of these workplace innovations differ by industry, organization size, national context?
- What factors have driven the innovation observed?
- What are the facilities and FM implications of alternative work practices?

Methodology

Information on new working practices occurring within the sponsor organizations was gathered through interviews with organization representatives, written reports made available to the IWSP, summaries prepared by the organization for the purpose of this report, and through an extensive literature search. The data collected from the literature search was used to supplement the sponsor information in order to analyze trends within countries and industries, and across job types, for the new working practices.

The New Working Practices Report

The report is organized into three primary sections: *flexible work scheduling*, *flexible staffing*, and *flexible work locations*. Each section defines the new working practice, a well as describes a range of different alternatives available under each practice. Where available, demographic information such as incidence of the flexible practice among corporations and the workforce, incidence according to business type, and incidence broken down by job types is provided.

Flexible Work Scheduling

Flexible scheduling practices were defined as alternatives to the conventional pattern of full-time employees. Flexible scheduling options included: flextime, job sharing, compressed workweeks, regular part-time, work sharing, phased retirement, voluntary reduced work time, and leave time. Organizations tended to implement these types of programs to accommodate employee needs; to attract and retain staff who are unwilling or unable to work on the conventional scheduling pattern; to improve employee quality of life; and to meet increasingly stringent governmental regulations to reduce peak travel loads and the associated congestion and air pollution.

The specific practices discussed in this report were: flextime, job sharing, compressed workweeks, and regular part-time.

Flexible Scheduling Profile Summary/Literature

Some of the trends that were found with regards to flexible scheduling worldwide included:

- The use of flexible scheduling is increasing worldwide.

  Statistics from all sponsor countries (United States, United Kingdom, the Netherlands, and Japan) indicated that the use of flexible schedules has increased among corporations and employees.

- Executives, administration, and managerial professionals are more likely to work flexible schedules.

  This trend was particularly true for flextime programs, less so for job sharing. Part of this trend can be explained by differences in the nature of the jobs, as well as the fact that executives and managers tend to have more control over their work times.

- Regular part-time work is the most popular form of flexible scheduling worldwide.

  Many organizations use this practices as a staffing strategy as opposed to at the request of employees. This trend could change in the United States in the near future as a result of the Clinton Health insurance proposal requiring employers to pay for health care benefits for all part-time and temporary workers.

- Job sharing and compressed workweeks, although present in most of the sponsor organizations, represented a very small proportion of the workforce.

  Job sharing is one of the most difficult forms of flexible scheduling to implement in that the organization must decide how to handle benefits and salary for two people sharing a single job. Also, the situation demands that *two* people desire to share the job, while other forms of flexible scheduling are worked out on an individual basis.

  Compressed workweeks are more difficult on employees in that they have to work very long days for several days at a time. Some employees experience "burn out" as a result of this type of schedule.

- Government intervention has a definite impact on the use of flexible scheduling alternatives.

  Countries that have specific laws governing the length of the work day and scheduling of hours (e.g., EC Directives on Work Times) often have to work around not only the employees' desires, but government regulations. In the United States, each state often has its own laws with regards to the work day that must be addressed.

Workscape 21 Sponsors— Summary of Flexible Scheduling

Thirteen out of the fifteen responding sponsor organizations used some form of flexible scheduling. The U.S. sponsors were more likely to offer flexible scheduling alternatives than sponsors from other countries.

The most prevalent forms of flexible scheduling among the IWSP sponsors were flextime and part-time programs. Reasons for this trend stemmed from government and cultural influences in each of the sponsor countries.

Flexible scheduling programs in the Japanese organizations tended to be more rigid than those in other countries. Most programs gave employees the choice of, for example, coming in a 7 am versus 8 am, but did not give employees the ability to pick their own starting (and quitting) times.

Although most of the organizations reported using some form of flexible scheduling alternatives, the participation rates within the organizations were still, on average, quite low. Participation rates in all forms of flexible scheduling alternatives tended to fall around 2.0% of the workforce.

Facility/Facility Management Implications for Flexible Scheduling

- Services such as security, heating, etc. must be provided outside of the core working hours to support those people working flexible schedules.

- Many of the traditional space management policies in use today do not position companies to realize the benefits of fluctuating/reduced staff levels that occur as a result of flexible scheduling programs.

- Permanent ownership of space may come under question as a result of increased employee participation in flexible scheduling programs.

- Flexible scheduling programs must be viewed in conjunction with other flexible working practices in order for organizations to assess their impact as a whole.

Flexible Staffing

Flexible staffing involves an organization's use of a contingent workforce ring to supplement the normal core of employees on an as-needed basis. Flexible staffing options include: temporary agency hires, independent contractors, internal temporary pools, employee leasing, temporary-fixed term contract, and outsourcing. Flexible staffing arrangements tend to be driven by competition and economic factors that require organizations to downsize, reorganize, and reduce headcount. These practices increase the organization's flexibility with respect to workload demands.

The flexible staffing arrangements discussed in this report included: temporary agency hires, independent contractors, and internal temporary pools.

Flexible Staffing Profile Summary/Literature

- Flexible staffing arrangements are used by organizations primarily as a means of reducing the workforce size or to meeting fluctuating workload demands.

This organizational use pattern differs from that of flexible scheduling, which is used primarily to improve employees' overall quality of life.

- The use of flexible staffing (temporary agency hires, internal temporary pools, independent contractors) is increasing at a much smaller rate than flexible scheduling.

This is not to say that organizations are decreasing their use of flexible staffing strategies. On the contrary, use has increased as well as diversified. Companies are now considering such arrangements as outsourcing and employee leasing to handle complete departments/functions in their organizations.

- Temporary agency hires received more criticism by companies than other forms of flexible staffing arrangements.

Some organizations do not like the lack of control in the hiring process for temporary workers. Instead of hiring the individual, they hire the agency, and must rely on the agency to hire the individual. Organizations are also concerned about employee trust and loyalty towards the company.

- Temporary hires have in the past been used primarily for office support/clerical positions, but more and more are being used for management positions in the 1990s.

Agencies are now in existence that cater primarily to these "non-traditional" temporary needs, such as in the fields of science, accounting, and management.

Workscape 21 Sponsors— Summary of Flexible Staffing

All of the responding sponsor organizations reported using some form of flexible staffing arrangement. Again, the participation rates in flexible staffing arrangements tended to be quite small, even less so than flexible scheduling. Reasons for the low participation rates centered around outside forces such as the economy or governmental regulations.

The least popular form of flexible staffing among the sponsors was internal temporary pools. One explanation for this low use rate could be related to the typical job types of people participating in these programs (e.g., clerical/support staff). Many organizations are reducing the size of their workforce, and this job type seems to be heavily affected by the cutbacks.

Facility/Facility Management Implications for Flexible Staffing

- Security issues, such as access to the building and access to information, must be addressed to account for employees that are working *in* the organization, but are actually working *for* an outside agency.

- Organizations must account for fluctuating staff levels as a result of flexible staffing arrangements, providing working space for these people, as well as tracking when space becomes available.

- Flexible staffing programs must be viewed in conjunction with other flexible working practices in order for organizations to assess their impact as a whole.

Flexible Work Locations

For the purpose of this study, flexible work locations were defined as non-traditional work locations (home, telework centers, etc.) and atypical ways of allocating space (non-territorial and shared offices, etc.). Such arrangements are being utilized by companies for a variety of reasons that include: reducing transportation problems in their areas; increasing the size of their labor pools by including people that would otherwise not be able to work; reducing employee stress from commuting, balancing work and home life, etc.; increasing employee productivity; and reducing space costs.

The flexible work locations addressed in this report include: shared assigned offices, flexible work locations within a building, office swapping, home-based telework, non-territorial offices, and telework centers.

Shared Assigned Offices Summary

Shared assigned offices are offices in which two or more employees are assigned the same desk, workstation, or individual office.

In our experience, these kinds of offices have appeared more in England or Europe (i.e., Netherlands) than in the United States or Japan. The feedback we have had about them suggests that they are not well-liked. Problems arise from having to share an assigned space when compared to owning space or working in a totally free address office. In addition, many companies use this form of space allocation primarily as a means of space/cost reduction, without giving their employees the freedom and support they need to get their work done (i.e., portable technology so that employees can work out of the office).

Flexible Work Locations within a Building Summary

Recognizing that different tasks may require different types of space, furniture, or technology, some organizations are designing their buildings to promote the use of a variety of specially designed work areas. Employees are encouraged to select a work location based on the nature of the work they are doing and their own work style and preferences, regardless of location in the building.

These different spaces can take on many forms, from the more typical provision of common areas with conference tables and/or workstations, to more non-traditional arrangements with sofas, reclining chairs, food and beverage areas, quiet zones and small group meeting areas.

Scandinavian countries have a long history of providing outstanding building amenities to their staff, not only to provide a more pleasant atmosphere, but also to support greater team work effectiveness and productivity. Offices outside of Scandinavia using this type of flexible work location alternative tend to be fairly traditional, with the exception of organizations such as advertising agencies and other "creative" lines of work were being avant garde is considered acceptable and necessary.

Office Swapping Summary

Office swapping occurs when organizations with multiple offices allow employees who live in one location and work in a more distant office to use dedicated space in the office closest to them on a short-term basis. Office swapping can occur within a single organization, as well as across organizations.

The only sponsor company that reported a formal office swapping policy was the Dutch Federal Government. It would not appear that there are any unusual cultural barriers to using this kind of work environment in any of the sponsor countries. For companies with surplus space, making "drop-in" space available to their own or other companies' employees could be a way of intensifying space use and promoting flexibility.

Home-Based Teleworking Summary

Home-based teleworking arrangements allow employees to work either full-time or part-time from their homes during normal business hours. Employees are usually connected to the organization by some sort of electronic communication (telephone, modem/computer, beeper, etc.) For the majority of teleworkers, only a portion of their workweek is spent at home, perhaps 1-2 days per week.

The number of people teleworking is increasing throughout all of the sponsor countries with the exception of Japan. In Japan, cultural differences and high residential real estate costs serve as barriers to people working from home.

Another cultural difference that we found among the sponsor organizations using teleworking as a flexible work location alternative was the impact on the central office as a result of teleworking. In the Netherlands, teleworking did very little to change the central office (i.e., rethinking space allocation and design), whereas in the United States teleworking was accompanied by reductions in the office space and reutilization of the central office space.

Non-Territorial Offices Summary

Non-territorial offices are offices where employees do not have individually permanently assigned desks, workstations, or offices. This arrangement is similar to the shared assigned office, but employees use whatever space is available versus several people using a single space that was assigned to them. Usually the number of users outnumbers the workstations provided in non-territorial offices. This space allocation method is based on the premise that employees are out of the office the majority of time, and usually only require office space about 30% of the time.

Non-territorial offices were the most prevalent form of flexible work locations among our sponsor organizations. Eight of the sponsor organizations reported using this form of space allocation. The size of the offices varied, from small offices with as few as eight people to large buildings with over 500 users. User job types also varied across the organizations, but with the common characteristic of requiring the individual to be out of the office 50-70% of the time.

Cost was a common driver across national contexts. All of the organizations implemented non-territorial offices with the intent to either reduce space/facility costs or avoid increasing costs.

As the pressures increase for organizations to reduce costs, acceptability of non-territorial offices also increases. It is also likely, however, that if pressures subside to reduce costs, that the popularity/acceptability of non-territorial offices among staff and management will also decrease—unless, that is, companies implement non-territorial offices primarily as a better way of working rather than primarily as a cost reduction strategy.

Telework Centers Summary

Telework centers are defined as offices intended for use by employees from the same or different organizations as an "office away from the office;" that is, an office that is near the employee's residence. It is not simply a branch office, which may draw on employees living a considerable distance from it, and usually houses only one organization.

Telework centers have been developed in North America primarily in response to government pressures to reduce traffic congestion, air pollution and number of commutes, to take advantage of surplus space, and to demonstrate new telecommunication products and services. In Japan, telework centers provide a showplace for new technology as well as to reduce unpleasant commuting time.

At the time of this report, none of the sponsor organizations were using telework centers.

Facility/Facility Management Implications for Flexible Work Locations

- The workplace now goes beyond the boundaries of the office and may require facility managers to be responsible for many "sites." Facility managers must develop new information systems solutions, methods of servicing equipment and furniture, and purchasing methods to incorporate the special needs/demands of these additional "sites."

- Facility managers will have to address specific security issues and determine what information people working outside the central office will have access to.

- Facility managers will have to acquire equipment, technology, and furniture that will best facilitate employees' working patterns.

Conclusion

Type and Extent of Workplace Innovation

- An extremely wide range of new working practices were in place across our organizations. Many of these practices had only been implemented within the past year or two.

- The number of employees involved in these practices varied enormously. In most cases, these numbers were quite small.

Innovation Drivers

- Different factors had driven different kinds of new working practices. Some of the common drivers were: cost reduction, meeting more stringent government environmental regulations, responding to employees' desire for more time and space freedom, and increasing performance. Some of the new ways of working appeared to be influenced by some drivers more than by others. Flexible scheduling, for example, has been driven by employee pressures to provide more flexibility in when they work; flexible staffing has been driven more by organizational concerns to increase their ability to reduce or expand their workforce quickly. Several of the flexible workplace programs (i.e., home-based telework and telework centers) have been driven by pressures from increased government regulation intended to reduce traffic congestion and air pollution, while approaches like non-territorial offices have been driven by the desire to reduce expense costs and, in some cases, to improve teamwork and individual productivity.

Effects of Job Function, Type of Industry, Organizational Size and National Context

- Because of the nature and make up of the research consortium, we were not able to find any evidence that the availability of new working practices varied according to organization size or by industry type. The working practices did, however, seem to be affected in some cases by national contexts.

  The Japanese companies, for example, appeared to have fewer examples of flexible work scheduling and staffing than American, English, and Western European firms. Teleworking was also not represented among any of our Japanese companies, while work environments with a strong residential feel to them were only found in Scandinavia.

- With respect to flexible workplaces, the non-territorial offices were associated primarily with job functions which required people to be out of the office on a regular basis: field sales, customer service, project management, consulting.

- Home-based telework has also been viewed as appropriate for a subset of workers with particular characteristics: highly motivated, independent, at higher levels of the organization. The Dutch government experience, in which a range of job functions participated in home-based telework suggests that a wider range of staff may benefit from this type of arrangement.

Facility, Real Estate and FM Implications

- Flexible workplace practices, to be successful, require the expertise and participation of many corporate functions. To achieve the collaboration needed to integrate the concerns and expertise of these different disciplines, new alliances will need to be formed that cut across discipline and departmental boundaries.

- The number of employees involved in the range of alternative workplace practices we have examined is small, though growing. For these kinds of alternative workplace practices to be more widely adopted there is a need to demonstrate the organizational benefits of these new ways of working that go beyond demonstrating either that just employees like the practice, or that the practice will substantially reduce operating and overhead costs. Organizations must examine the full range of outcomes that will enable them to better meet their fundamental business objectives.

- Flexible work locations require facility managers to be responsible for many "sites." Facility managers must develop new information systems solutions, methods of servicing equipment and furniture, and purchasing methods to incorporate the special needs/demands of these additional "sites."

- Facility managers will have to acquire equipment, technology, and furniture that will best facilitate employees' working patterns.

- Fundamental rethinking about security issues and access to sensitive information is needed. This includes the need to rethink what must be secure (and why) as well as the best ways to provide the necessary security.

- The relationship between standard practice and customized provision need to be considered. Organizations are going to need to develop an array of workplace options and then use information systems to easily manage the resulting complexity.

- The provision of a permanent space for a worker may come under increasing pressure for change. Understanding of what aspects of the workplace must be "owned" by the individual and what can be shared is important not just for non-territorial office workers, but for a much wider range of people who might participate in flexible staffing or scheduling arrangements.

- Facility managers and organizations as a whole need to understand that flexible scheduling, staffing, and work locations must be viewed as an integrated workplace system in order to realize the maximum benefits. One implication of more small sites, with sites designed to accommodate more team and collaborative work, is that both the amount and type of real estate required will substantially shift over the next decade. Managing the real estate portfolio is likely to include managing workplaces as diverse as telework centers, home offices, and small team-oriented headquarters buildings, along with access to alternative work settings that have never been considered part of the real estate portfolio: places like airline clubs, resort offices, specially-designed hotel rooms and meeting space. While the overall amount of space required is likely to continue to shrink, both the number of sites managed and their diversity is likely to increase, in many cases dramatically.

Benchmarking As An Element of an Integrated Workplace Strategy

Our research indicates that few organizations understand the value of developing an *Integrated Workplace Strategy*. They have not yet seen the connection between flexible staffing and flexible location decisions, or between knowing how many people are teleworking and what this means for their overall real estate requirements. Flexible working arrangements tend to be informal arrangements between supervisor and employees, with no one in the organization quite sure how many people are involved in each of the available programs. The absence of this information about the extent and nature of these practices means that organizations are making decisions about how they allocate their scarce resources of people, time, and money—all of which ultimately directly affect their ability to meet their fundamental business objectives—in an information vacuum.

In addition to the basic information about different workplace practices this report summarizes, perhaps the most important role it can play is to help stimulate organizations to begin to identify new sources of information about the workplace that they need to collect in order to make effective, strategic decisions about how they purchase, allocate, and use their resources.

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Introduction

Background

The concept of Total Quality Management (TQM) as a means of helping organizations become more competitive has received much attention over the past years and has become a regular "household" word among organizations in America and abroad. As TQM becomes more deeply rooted in corporate society, many professionals are turning to benchmarking as a successful way of planning and improving their organizations. Benchmarking is a continuous process in which companies "identify AND implement the best practices to achieve top performance."[1] The underlying premise is that by comparing oneself to one's competitors on a common set of metrics, an organization has a yardstick for measuring its own relative performance. When benchmarking against other organizations, the goal is to compare oneself to the "best of the breed" in order to set targets for achieving challenging yet feasible goals.

Benchmarking:
The continuous process of identifying AND implementing the best practices to achieve top performance.

The sixteen international organizations participating in the International Workplace Studies Program (IWSP), formally the International Facility Management Program, are considered leaders in their respective fields.[2] Understanding the range of workplace innovations occurring in these companies is therefore a valuable benchmarking exercise for those interested in new workplace practices. Because the initial step— and often most difficult step— of a good benchmarking study is to identify the practices within one's own organization or subunit, this study is also very useful to our sponsors. The fact that many of our sponsor organizations operate in locations around the world is an added benefit that directly contributes to our ability to understand workplace innovations in the international arena.

Sponsors in Working Mother's 100 Best Companies in US— 1993:†

- *Aetna Life & Casualty*
- *Arthur Andersen & Co. SC*
- *DuPont*
- *Eastman Kodak*
- *IBM*
- *Xerox*

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[1] "The Benchmarking Boom," HR Focus. April, 1993, pg. 1.

† The Working Mother's Top Companies Survey is conducted annually in the United States by *Working Mother* magazine. Companies are judged in four categories: pay, opportunities to advance, child care, and family-friendly benefits. In 1991, sponsors in the top 85 were: Aetna, Andersen, DuPont, Eastman Kodak, IBM, Steelcase and Xerox.

[2] See Appendix A: Sponsor Description for brief individual descriptions of each participating organization.

This benchmarking study focuses on workplace innovations that afford employees flexibility in terms of how, when and where they work; more specifically, on flexible scheduling, staffing, and work location alternatives. It represents one study in a series of projects initiated by the IWSP, as part of its *Workscape 21: The Ecology of New Ways of Working* research consortium. The purpose of this series of studies is to gain an understanding of what the organizational ecology of the workplace may look like in the next decade. Organizational ecology is the study of how organizational work patterns, practices, and technology influence the physical settings of the office, as well as how the settings affect work patterns, practices and technology. [3]

Flexible work locations have a potentially large impact on the office as an entire ecological system. The availability of alternative work locations such as satellite offices and telework centers, home offices, and resort offices promotes decentralization of work and requires special considerations in the central office. These "special considerations" include communications technologies that enable staff, management and customers to maintain effective contact with each other. They also include considerations for managing remote workers, designing, operating and managing the central office, remote technology, and much more. The office must be thought of—and planned—as a dynamic system of work settings linked by the electronic movement of information and the physical movement of people.

"New Work Schedules, when carefully chosen, designed, and executed, are among the best investments an employer can make. The cost is small, the risk is low, and the potential return is high. Best of all, they benefit all parties involved."

Jerome Rosow, President of the Work in America Institute

Flexible staffing and scheduling, though typically considered to be issues for Human Resources, can also have an impact on the office when they are viewed as part of a comprehensive ecological system. How do you design a facility to incorporate a contingent workforce? What special technological, management, and design issues arise as a result of flexible scheduling that may require departments to occasionally house twice as many people, but not frequently enough to justify doubling the space? Is the practice widespread enough that it will significantly effect the office environment? Will it be in the

[3] Becker, 1981; Steele, 1986.

future? What are the impacts on the central office when these practices are used in conjunction, such as flextime with non-territorial offices?

Many of the alternative work patterns covered in this report have existed for some time. The notion of hiring temporary workers on a short-term, as-needed basis or allowing employees to begin work earlier in the morning so that they may leave earlier in the afternoon are not new ideas. Similarly, for some job functions the alternative work location has been standard practice for a very long time. Salespeople, for example, have been working out of briefcases in their cars, on airplanes, at home, and at their clients' offices for many years. Our research indicates, however, that the use of such practices is not uniform across all job types, nor is it necessarily standard practice within organizations. Although many organizations maintain that they offer flexible programs to their employees, the actual use rate in the organizations is still quite low. Thus, while many of the alternative work patterns we have included in our study are not unusual in the sense of being implemented for the first time, they still represent atypical patterns of work in most companies.

Objectives

The IWSP *New Working Practices* study addresses the following questions:

- What is the range of different types of innovative workplace practices currently in place in our sponsor organizations representing the fields of computers, insurance, construction, furniture, government, utilities, and financial services?

- How widespread are these new working practices within the IWSP organizations and within organizations more generally?

- Are certain types of workplace innovations more commonly associated with particular industries, different size organizations, or different national contexts?

- What factors have driven the innovation observed, and are these factors common across industries and countries?

- What are the facilities and FM implications of alternative work practices?

Methodology

With the help of new working practice definitions developed by groups like New Ways to Work[4] and the IWSP's own experience with flexible working, a list of new working practices was generated along with definitions of each of the working practices. These work practices represent atypical, innovative ways of working. A comprehensive list can be found in Table 1: Definitions of Workplace Innovations on pages 6-7.

The list of practices was sent to each of the sponsor organizations. Together with the IWSP, the organizations then worked to determine whether such practices exist in their organizations. Information was requested on the number of people involved in the flexible practice, the occupations of the employees involved, and the goals and drivers of the new working practices. Sponsor organizations provided the information to the IWSP in telephone interviews, in the form of internal written reports made available to the IWSP, and in written summaries prepared for the purpose of this study and sent to the IWSP team.

In some instances, the organizations were asked to provide a more detailed description of specific flexible work practices. These summaries can be found under the "Sponsor Initiative" sections of each flexible practice.

Unfortunately, very few of the organizations had the desired information in an easily accessible form. Many of the different flexible programs are informal arrangements made between the manager and individual employee. Hence, there were no official statistics in any of the organizations, merely estimations based on personal experience. Also, the idea of flexible work locations is fairly new with many organizations, so it is very difficult to find historical data on this subject.

[4]"Flexibility: Compelling Strategies for a Competitive Workplace," New Ways to Work in Partnership with DuPont. San Francisco, CA: 1991.

To help offset the "gaps" of information from the sponsors, the IWSP research team conducted an extensive literature search on the flexible practices for each of the sponsor countries: the United States, Japan, the Netherlands, and the United Kingdom. Facts from each of the countries were gathered, including: the status of the labor force over time, government regulations that could influence the availability of flexible work practices, the work culture in each of the countries, and existence/usage rates of flexible programs (see Appendix B: Literature Search Methodology for more details).

The combination of statistics from the sponsor organization and those gathered from the literature search allowed the IWSP team to look for trends within countries and industries, as well as across job types for each of the practices. It also allowed the team to compare the sponsor organizations to the norm for their countries to see how these organizations relate to the average organization in their respective country.

Table 1: Definitions of Workplace Innovations

Flexible Work Scheduling	Using non-standard working times for an organization's regular employees.
Flextime:	Scheduling working hours for personal convenience around "core hours" (hours during which all employees must be present) determined by the management.
Job Sharing:	Two permanent employees share the responsibility of one full-time position.
Compressed Work Week:	Standard workweek is compressed into fewer than five days. Common variations are four ten-hour days per week or nine nine-hour days per two week period.
Part Time Permanent:	Regular permanent employees hired for less than a standard work week, often with a corresponding reduction in benefits.
Work Sharing:	All or part of the organization's workforce reduces hours and salary. This scheduling method is usually used to prevent layoffs.
Phased Retirement:	A gradual retirement that involves reducing the hourly commitment over an established time frame.
Flexible Staffing:	Using a contingent workforce ring to supplement an organization's regular full time staff.
Temporary Agency Hires:	Employees of a temporary agency whose services are contracted for by a company. Temporary hires are considered employees of the agency, not of the organization.
Independent Contractors:	Self-employed workers hired for a specific project or duration, such as consultants or free-lancers. Independent contractors are often hired because they possess special skills not readily available within the organization.
Internal Temporary Pools:	A group of people, managed by the company "on-call" in case they are needed.
Temporary —Fixed Term:	Temporary employees hired by the organization for a fixed period of time. Similar to independent contracting except that independent contractors can often be working for more than one organization at a given time.
Leased Employees:	Employees that are leased by the organization from an outside agency. These employees are considered part of the agency, not the organization. Leased employees differ from temporary agency hires in that temporary agency hires are often used for a fixed period of time, whereas leased employees can often hold what would otherwise be a permanent position.
Outsourcing:	Outsourcing is when an organization contracts out work to an outside organization. In the past, services such as cleaning, catering, and laundry were often that only forms of outsourcing. A current trend is for organizations to outsource whole departments such as customer service, human resources, and accounting.

(continued next page)

Table 1: Definitions of Workplace Innovations (continued)

Flexible Work Locations:	Using non-traditional work settings and locations for an organization's regular employees.
Home-Based Telework:	An employee works part or full time at home during regular business hours.
Shared Assigned Offices:	Two or more employees are assigned the same desk, office, or workstation.
Flex. Work Location w/in a Bldg:	Employees are encouraged to work in a wide variety of work locations and settings throughout the building based on their work tasks.
Office Swapping:	Employees can occasionally work in a company location closer to their home than their assigned location.
Non-Territorial Offices:	Offices where employees do not have assigned workspaces and that usually have fewer desks/workstations/offices than users.
Telework Centers:	Offices for use by employees whose residence is near the telework center.

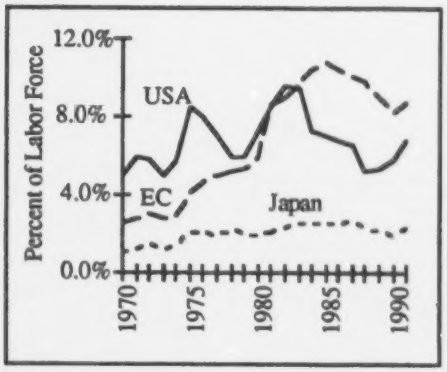

Figure 1: Unemployment Rates for All Countries

Why All the Emphasis on Flexibility?

The Economy

During our current state of weakened economy, organizations across the world are downsizing. Fortune 500 employers reduced their work force by an astounding 20% between 1980 to 1988,[5] with 3.5 million fewer workers being employed by these companies in 1991 compared to 1982.[6] The EC countries saw a sharp increase in the overall unemployment rate beginning in 1990 (from 8.3 in 1990 to 8.8 in 1991), and continuing to today (see Figure 1). Even in Japan, where layoffs are traditionally unheard of, cutbacks are occurring. Part-time employees and women in Japan have already been reduced or eliminated in many organizations, but these people are not the only ones to be affected. Early retirement packages are now being offered to workers at or approaching the age of 50 in some Japanese organizations to help reduce the size of the organization's labor force. [7]

With conditions in the workplace being what they are, companies tend not to focus their attention on flexibility within their organizations to meet the needs of their workers, and employees seem less willing to request a flexible working arrangement for fear of losing their jobs. Why, then, all of the interest in flexible work practices?

Changing Business Climate

According to Michael Hammer and James Champy in their book, Reengineering the Corporation: A Manifesto for Business Revolution (Harper Business, 1993), the troubles many organizations are facing today have nothing to do with the recession, and are not temporary—they are surfacing because of new and continuing changes in the way we do business. Hammer and Champy looked at major businesses in the U.S. and determined that businesses were operating today like they were 100 years ago, even though the business environment has changed dramatically. Businesses are geared to operate in an environment where demand is greater than supply, competition is low, and

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[5] Scott, Miriam Basch, "Flexibility Can Be Strategic in Marketplace." *Employee Benefit Plan Review*, March, 1992, pg. 17.

[6] PresentFutures for Offices and Other Places of Work. (1992). NOPA, The PresentFutures Group, Washington, D.C. January 1992.

[7] Miller, Karen Lowry. "Stress and Uncertainty: The Price of Restructuring." *Business Week* 29 March 1993: pp. 45-46.

businesses have a stronger position than customers (if customers do not like the quality of the product or the price is too high, it does not matter much because they have nowhere else to turn). Today's business climate is actually the reverse of how companies are operating; supply is greater than demand, competition is high, and customers have a stronger position than do businesses (if customers do not like the quality of the product or the price is too high, there are several companies waiting in line to try and win the customer over with their own product). The businesses that will survive are those businesses that become the best at what they do. To become the best, organizations have to examine how they are doing their work, and ask themselves if this is the way they should be working; in other words, working smarter in every aspect of their business.

"America's business problem is that it is entering the twenty-first century with companies designed during the nineteenth century to work well in the twentieth"

Michael Hammer and James Champy, Reengineering the Corporation.

The Future Labor Force

Despite unemployment rates increasing worldwide, experts predict that most industrialized countries are changing demographically in such a way that they will experience a shortage of qualified labor in the next five to ten years. The labor force in the US grew 2.9% per year in the 1970s, but has fallen to only 1% per year in the 1990s. By the year 2000, this figure is predicted to fall even more (see Figure 2). Entry-level employees are projected to decrease by 18% as the post baby boomers come of working age (4 million to 3.3 million) in 1995.[8] Similar trends are occurring in Japan and the EEC (see Figures 3-5).

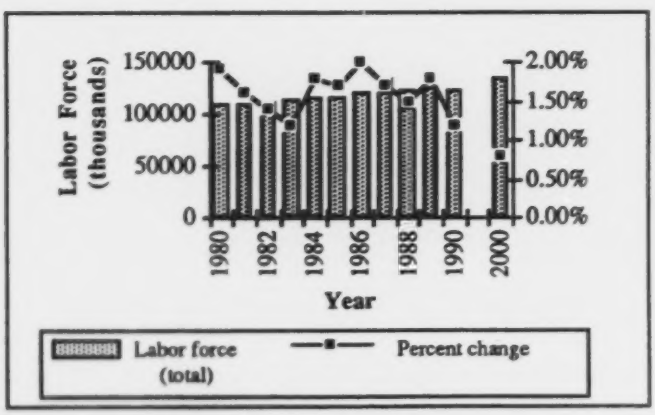

Figure 2: United States Labor Force

[8] Elliot, Vicki and Orgera, Anna, "Competing For and With WORKFORCE 2000." HR Focus, June 1993, pg. 3.

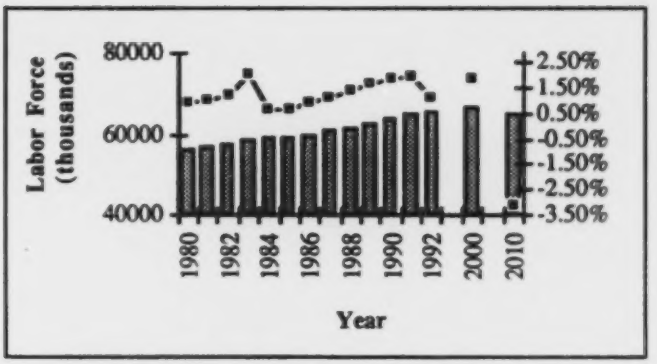

Figure 3: Japanese Labor Force

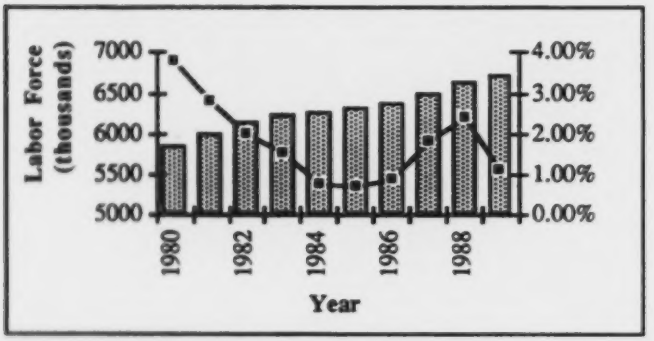

Figure 4: Netherlands Labor Force

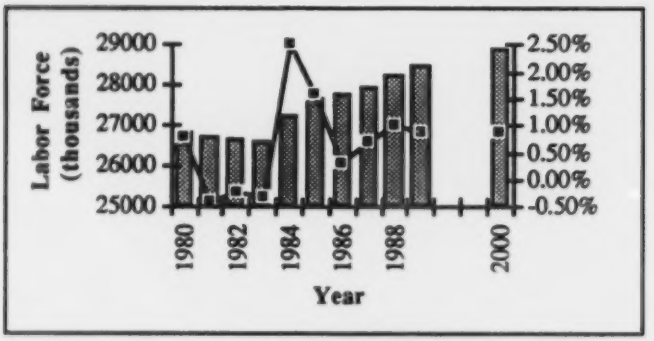

Figure 5: United Kindom Labor Force

The workforce profile in many countries is also changing as we approach the 21st Century. The workforce is growing older as the baby-boomers age, dual-income families are becoming the norm rather than the exception, and more families are headed by single working parents than they have been in the past. Organizations will need to look

at new, innovative ways of attracting, retaining, and managing this diversifying workforce.

As organizations become leaner, the remaining employees have to perform more work than they have in the past; a single employee may have to perform the same job that two or even three people were performing before down-sizing. And, employees will have to perform more work better. To the organization, this means finding ways to help employees to be more productive with their time, while trying to prevent employees from burning out as a result of the added workload. Flexible work practices can help reduce stress by giving employees the flexibility they need to balance home and work life. They also enable employees to work in settings where they are most productive for particular tasks (i.e., performing highly concentrative tasks at home, conducting meetings at satellite offices that are more convenient for all participants, etc.).

The New Working Practices Report

This report is organized into three primary sections: flexible work scheduling, flexible work staffing, and flexible work locations. Each section defines the flexible work practice, as well as describes a range of different alternatives available under each category. For example, the flexible work scheduling section defines flexible schedules, and is then broken down into a number of different alternatives, such as flextime, part-time, and compressed work weeks.

Where possible, demographics for the flexible work practices have been provided for the United States, the EC countries, and Japan. These demographics include: incidence of the flexible work practice among corporations and the workforce, incidence according to business type, and incidence broken down by job types.

For each flexible practice, the IWSP has included an example of a sponsor initiative for that practice. The sponsor initiative gives a brief description of a program implemented at one or more of the IWSP sponsor organizations.

In addition, a sponsor comparison and cultural implications section has been included for each flexible work practice. For flexible scheduling and flexible staffing, this comparison/discussion occurs at the conclusion of the section. For flexible work locations, this comparison/discussion occurs at the end of each flexible practice alternative (i.e., home-based teleworking, telework centers, etc.). since the emphasis of this report is to pinpoint those flexible alternatives that have the greatest impact on facilities/facility management.

Finally, a discussion on the implications to facility/facility management has also been included for each section. The purpose of this discussion is to address certain issues that arise as a result of implementation of the flexible work practices.

Flexible Work Scheduling

Flexible scheduling practices are defined as alternatives to the conventional pattern of full-time employees working a standard 8 hour day (9 A.M.—5 P.M., or the organizational equivalent), Monday through Friday (and Saturday at some organizations). These flexible scheduling alternatives can range from employees modifying their time in and out of the office, to two employees sharing a single job (see sidebar). Organizations have become willing to consider these non-traditional work patterns in order to accommodate employee needs (e.g., for child care, personal appointments and errands); to attract and retain staff who are unable or unwilling to work on the conventional scheduling pattern; to improve employee quality of life; and to meet increasingly stringent governmental regulations intended to reduce peak travel loads and the associated congestion and air pollution.

Flexible Scheduling Options:

- *Flextime*
- *Job sharing*
- *Compressed workweek*
- *Part-time permanent*
- *Work sharing*
- *Phased retirement*
- *Voluntary reduced work time*
- *Leave time*

Flexible Scheduling Profile

The number of employees participating in flexible schedule programs has risen substantially in the past five to ten years worldwide. Data from the Bureau of Labor Statistics indicates that in 1991, 15.1% of the total U.S. labor force had flexible schedules. This figure is up from the 1985 statistic of 12.3% (see Figure 6). Of those 15.1% involved in some fashion of flexible scheduling, 59% were men compared to 41% women (see Figure 7). These figures are contrary to the commonly held belief that women are the primary participants in flexible scheduling programs. Not only did men constitute the largest portion of flexible scheduling workers, but the likelihood that men would opt for this type of program was also greater than for women; 15.5% of all men in the work force participated in flexible scheduling arrangements, while only 14.5% of all women reported involvement in such programs. Participation, however, may be affected by occupation and job rank, with more upper level employees having the choice to work flextime. There are more men in the upper job levels than women, thus the higher participation rate.

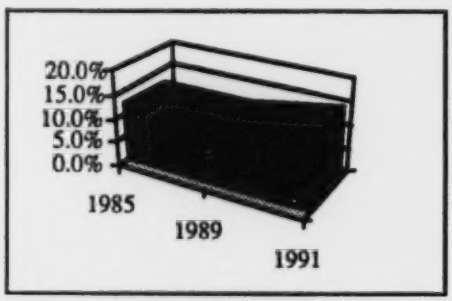

Figure 6: Percent of Total U.S. Work Force with Flexible Schedules
Source: "Flexible Work Schedules," *Bulletin to Mgt.* The BNA, Inc., September, 1992: pg. 276.

Figure 7: Flexible Schedules in the U.S. by Gender—1991
Source: "Flexible Work Schedules," *Bulletin to Mgt.* The BNA, Inc., September, 1992: pg. 276.

The likelihood that employees participated in flexible scheduling programs varied greatly for occupations. Executives, administration, and managerial professionals were much more inclined to work flexible schedules than were sales people, specialty professionals such as scientists and professors, and administrative support personnel (see Figure 8). Common across all occupations was that the percentage of employees working flextime for each type of job increased from 1987 to 1991.

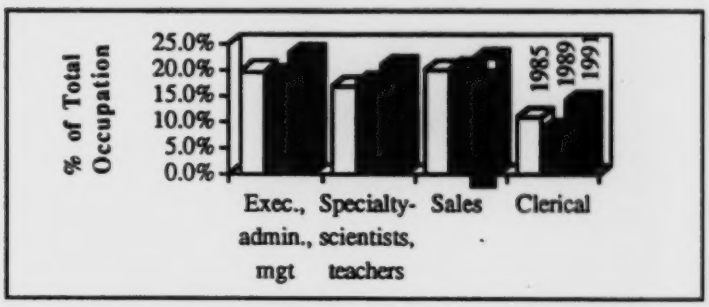

Figure 8: Flexible Schedules (U.S.) by Occupation

Source: "Flexible Work Schedules." *Bulletin to Mgt.* The BNA, Inc., Sept. 1992: pg. 277.

Flexible scheduling alternatives highlighted in this report are: flextime, job sharing, compressed workweeks, and part-time.

Table 2: Flexible Scheduling Definitions—Revisited

Flexible Work Scheduling	Using non-standard working times for an organization's regular employees.
Flextime:	Scheduling working hours for personal convenience around "core hours" (hours during which all employees must be present) determined by the management.
Job Sharing:	Two permanent employees share the responsibility of one full-time position.
Compressed Work Week:	Standard workweek is compressed into fewer than five days. Common variations are four ten-hour days per week or nine nine-hour days per two week period.
Part Time Permanent:	Regular permanent employees hired for less than a standard work week, often with a corresponding reduction in benefits.
Work Sharing:	All or part of the organization's workforce reduces hours and salary. This scheduling method is usually used to prevent layoffs.
Phased Retirement:	A gradual retirement that involves reducing the hourly commitment over an established time frame.

Flextime

Flextime is defined as a range of alternative work schedules that allow employees to chose when they will start and quit work. Generally, the flexible hours are worked around a core set of hours in which all employees must be present, and the employees must work a certain number of hours each week. A variety of flextime schedules exist, including gliding schedules, variable days, variable week, and maximum flexibility arrangements (see sidebar).

Flextime Profile

Incidence Among Corporations

Flextime is rapidly gaining popularity both among corporations as well as employees in the United States as a flexible practice. A study conducted by the Administrative Management Society (AMS) Foundation's Committee of 500, a national panel of managers from various companies in the U.S., found that 30% of participating organizations offered flextime alternatives to their employees (see Figure 9). This figure is up from 15% and 29% in 1977 and 1985, respectively. The Conference Board conducted a similar study in 1988, surveying 2,775 of the largest U.S. companies (of which 512 sent back responses), and found that almost 50% of responding companies offered flextime alternatives. One explanation for these differing percentages has to do with the size of the organizations involved in the studies. The AMS companies averaged approximately 500 employees, while The Conference Board participants average 3,000 employees in their organizations. The differences suggest that larger firms are more likely than smaller firms to offer flextime to their employees (or at least offer it as a formal workplace program).

A survey by Hewitt Associates shows that the number of firms extending flextime programs to employees increased in the nineties, with 53% of firms reporting that they allowed employees to work flextime schedules in 1991 .

Flextime programs have also seen an increase in popularity internationally. In Japan, the number of companies reporting flextime programs for employees has increased from 0.8% to 2.2% from 1988 to

Flextime Alternatives:

Gliding Schedule:

Varying starting and quitting times around "core hours".

Variable Days:

Varying the length of the work day around core hours and a required number of hours worked each week .

Variable Week:

Varying the length of the work day and the work week around core hours and a required number of hours worked biweekly.

Maximum Flexibility:

Varying schedules without any sort of core hours or weekly quota.

Source: "Policy Guide— Flextime Options." *Bulletin to Management* September 24, 1992.

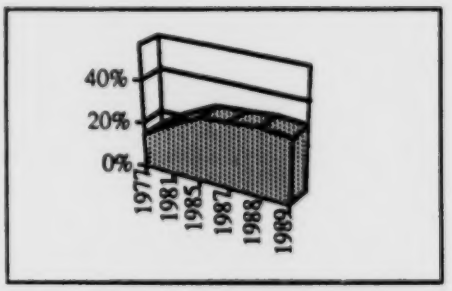

Figure 9: Percent of U.S. Firms Offering Flextime
Source: American Management Society. 1989 AMS Flexible Work Survey. AMS Foundation Business Trend Survey Series. United States: 1990.

1990.[9] When the figure for 1990 is broken down according to organization size, larger companies (1,000+ employees) are much more likely to offer flextime programs to their employees.

Incidence Among Workforce

The number of employees participating in flextime programs has increased internationally over the past five years, but the percent of total participants still remains quite low. In Japan, for example, the percent of employees working flextime increased from 0.9% in 1988 to 4.8% in 1990. When broken down by organization size, larger organizations had a larger percent of actual participants than smaller organizations.[10]

In the United Kingdom, the number of employed people working in a formal flextime program in 1990 was substantially higher than Japan, with the UK Employment Department reporting this figure to be around 9% of the total workforce. When including informal flextime programs in this figure, the number rises to 21%.[11]

Business Type

The AMS Flexible Work Survey also found that the use of flextime varied greatly with the type of business operation. Insurance companies were more likely than other types of companies to offer flextime programs to their employees in 1989, while banking and finance organizations were the least likely to for the same year (see Table 3, next page). The availability of flextime programs increased from 1987 to 1989 for insurance companies, education/government/ nonprofit organizations, utilities/transportation/ communication organizations, and manufacturing/processing companies, while the availability decreased for the same time period for retail/wholesale, services, and banking/finance companies.

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[9] Japan. Recommendation of Flextime System. Bureau of the Ministry of Labor, March 1992, pg. 36.

[10] Japan, Ibid.

[11] United Kingdom. Working Time Arrangements in Britain: 1990. Industrial Relations Review Report. Employment Department, United Kingdom, April 1992, pg. 2.

Table 3: Flextime Programs by Business Type—U.S.

Business Type	1987	1988	1989
Insurance	45%	52%	51%
Education/gov't/nonprofit	27%	25%	48%
Utilities/trans./comm.	22%	38%	35%
Manufacturing/processing	16%	34%	25%
Retail/wholesale	30%	4%	24%
Business Services	41%	32%	23%
Banking/finance	31%	17%	14%

Source: American Management Society. 1989 AMS Flexible Work Survey. AMS Foundation Business Trend Survey Series. United States: 1990.

The three largest business types offering flextime programs in Japan, according to a survey conducted by NOPA of its members and member organizations, are manufacturing, retail sale and services, and wholesale, with 33%, 20%, and 13% of members in these areas reporting programs, respectively.[12]

Job Types

In Japan, R&D, clerical, and management aspects of organizations are the largest sectors participating in flextime programs, with approximately 50% of all organizations reporting such programs offering it specifically to these sectors in 1990. Sales and computer systems employees follow closely behind for the same year, with 43% and 39% of companies reporting that they offer flextime options to these sectors.[13]

Sponsor Initiatives

Aetna Life & Casualty

Aetna Life & Casualty was listed in *Working Mother* magazine's top 100 companies for working mothers in the United States in 1993. Rankings were based on pay compared to competition, opportunities for women to advance, support for child care, and family-friendly benefits. Aetna received four out of a possible five points in the area of

[12]NOPA, "Research for the Office Environment." Japan, 1992, pg. 55.
[13]Japan, Ibid.

family-friendly benefits, including flexible scheduling for employees. Employees can work varied schedules, including flextime, job sharing, and compressed workweeks.

Chubu Electric Power Company

Chubu Electric Company offers a variety of flextime schedules to their employees. Among these are: flextime, staggered office hours, and shift work. Management, construction, operations, and repair employees tend to work the more structured flextime options (staggered schedules and three shifts). Their R&D department, however, has the somewhat less structured option of flextime. In 1992, almost 200 people worked some form of flextime schedule. This count represents approximately 1% of Chubu's total (20,412) workforce.

Steelcase, Inc.

In an interview with Cal Jeter, director of Steelcase, Inc.'s community relations and employee service, *Employee Benefit Plan Review* noted some of the benefits Steelcase associates with their overall employee-friendly work environment, of which workplace flexibility programs (flextime, job sharing, and part-time) are a contributing factor:

- Steelcase has reduced employee turnover to 3% annually. This is much less than the national average of 10% (1992 figures).
- The average length of service for Steelcase employees is ten years, which is also better than the national average.
- Steelcase reports increased morale among employees, decreased absenteeism and tardiness, increased productivity, and improved customer service as a result of its flexible programs.

At the time of the article (March, 1992) Steelcase reported over 600 employees participating in their flextime program. This represents approximately 4.5% of their workforce in North America.

Table 4: Workscape 21 Sponsors—Flextime

	Flextime
Aetna Life & Casualty	■
Arthur Andersen	■
ASPA/SAMAS Group	□
Chubu Power Co.	■
DuPont	■
Eastman Kodak	■
Ernst & Young	
General Electric	■
IBM	■
Kokuyo Co., Ltd.	■
Osaka Gas	□
Project Office Furniture	
Rijksgebouwendienst	■
Steelcase	■
Shimizu Inst. of Tech.	□
Xerox	■

■ Has program

□ Does not have program

Job Sharing

Job sharing involves two employees sharing the responsibilities of a single job. It is one of the more difficult flexible scheduling alternatives to implement because firms must work out a salary and benefits package that is satisfactory for both people, while avoiding paying for two full-time employees. In general, companies tend to pay a single salary (or slightly more than the single rate) and provide two benefit packages to job pairs. Job sharing is one of the less popular flexible scheduling alternatives among corporations, falling behind part time, flextime, and compressed workweeks, respectively.[14]

Job Sharing Profile

Incidence Among Corporations

The growth of job sharing programs in the United States has been very slow over the past few years. The Conference Board found that, of the 512 respondents to their survey, 22% reported that they offered job sharing to employees as a scheduling alternative. Of these firms, however, the number of actual job pairs tended to be quite low (less than five per company). The AMS found the availability of job sharing among their committee representatives to be much less, with only 8% of the participating organizations extending job sharing as an alternative schedule. This figure was down from 11% in 1985. Again, the difference in participation levels is the result of the size of the firms involved in the separate studies; larger firms are more likely than smaller firms to offer job sharing programs, and the Conference Board respondents were on average larger than the AMS participants.

Recent statistics appearing in *Management Today* indicate that only 2% of all UK firms offer job sharing.[15] This figure was forecast to be much higher, but as a result of the recession in the UK, many non-full-time employees were let go or incentives to attract employees were pushed to the background.

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[14]"$$$ Benefits of Alternative Scheduling." *HRMagazine*, June 1992, pg. 19.

[15]Skeel, Shirley. "New Working Models." *Management Today* May 1992: pp. 55.

Business Type

The AMS Flexible Work Survey also found that the use of job sharing varied somewhat with the type of business operation (see Table 5). Insurance companies were more likely than other types of companies to offer job sharing programs to their employees in 1989, while retail/wholesale sales and distribution were the least likely to for the same year.

Table 5: Job Sharing by Business Type—U.S.

Business Type	1988	1989	% Change
Insurance	10%	15%	5%
Education/gov't/nonprofit	13%	12%	-1%
Utilities/trans./comm.	6%	11%	5%
Manufacturing/processing	17%	8%	-9%
Retail/wholesale	4%	7%	3%
Business Services	8%	6%	-2%
Banking/finance	1%	5%	4%

Source: American Management Society. 1989 AMS Flexible Work Survey. AMS Foundation Business Trend Survey Series. United States: 1990.

Job Type

The majority of job sharing participants in the Conference Board study were in clerical or administrative support jobs versus professional or managerial positions. Ninety percent of the participants in 1987 were women, compared to 10% men.

Sponsor Initiatives

Eastman Kodak

Eastman Kodak was listed in *Working Mother* magazine's top 85 companies for working mothers in the United States in 1991.[16] Rankings were based on pay compared to competition, opportunities for women to advance, support for child care, and family-friendly benefits. Kodak received 3 out of five possible points in the category of family-friendly benefits. As of 1991, Kodak had 500 employees involved in a job sharing program. At that time, this represented 0.6%

[16]Eastman Kodak was also listed in *Working Mother's* 100 Best Companies in 1993, but statistics were not included for 1993.

of their total workforce. Eastman Kodak has one of the largest job sharing programs among the sponsor representatives.

Steelcase, Inc.

As mentioned earlier, Steelcase offers employees a variety of flexible scheduling alternatives, of which job sharing is one. Steelcase was also among *Working Mother's* 85 top companies to work for in the United States in 1991. In 1991, Steelcase had 98 people sharing 49 job positions, of which 37 were salaried positions. At that time, this represented 0.7% of their total workforce. Some of the benefits that Steelcase attributes to its flexible work programs were noted above.

Table 6: Workscape 21 Sponsors—Job Sharing

	Job Sharing
Aetna Life & Casualty	■
Arthur Andersen	■
ASPA/SAMAS Group	□
Chubu Power Co.	□
DuPont	■
Eastman Kodak	■
Ernst & Young	
General Electric	■
IBM	■
Kokuyo Co., Ltd.	□
Osaka Gas	■
Project Office Furniture	■
Rijksgebouwendienst	□
Steelcase	■
Shimizu Inst. of Tech.	□
Xerox	■

■ Has program

□ Does not have program

Compressed Workweeks

Compressed workweek arrangements allow employees to complete a forty hour workweek in less than five days. Several different compressed workweek models are in practice (see sidebar), but the most prominent model according to the Conference Board is the 4/10 model, where employees are allowed to work four ten-hour days with the fifth day off. Thirty-six percent of responding organizations reported having compressed workweek scheduling alternatives, with 50% of those offering it in the form of the 4/10 model.

Compressed Workweek Alternatives:

4/10 Model::
Four ten-hour days with the fifth day off.

3/12 Model::
Three twelve-hour days with four days off.

5/4/9 Model::
Nine hour days with a three day weekend every other week.

9/80 Model::
Same as the 5/4/9 Model except that the first Friday is only an eight-hour day, while the second Friday is off.

Compressed Workweek Profile

Job Types

Professional/managerial employees were more likely than clerical or administrative employees to participate in compressed workweek schedules; 38% of those employees working compressed workweeks were professional/managerial, versus 30% falling under the job description of administrative or clerical. Of those participating in this flexible scheduling alternative, 60% of the employees were men compared to 40% women.

Sponsor Initiatives

Xerox

Xerox has a formal compressed workweek program available to employees that obtain approval from their manager.

According to Xerox's *Guide to Flexible Working* documentation, the Customer Services organization has been using compressed workweeks as a scheduling method successfully for many years. One thing that the organization has found, however, is that compressed workweek programs experience the highest rate of failure (28%) of all the flexible work programs that they offer, primarily due to employee fatigue.

In order for an employee, department, or work group to participate in a compressed workweek program, an eight-step process must be followed which includes: making sure that the desired schedule is legal, assessing the appropriateness of the schedule, designing the program, obtaining approval from management, and evaluation of the program.

Xerox sees the benefits of offering this type of flexible scheduling to employees as "extending customer coverage while at the same time improving employee satisfaction."[17]

Table 7: Workscape 21 Sponsors—Compressed Workweeks

	Compressed Workweeks
Aetna Life & Casualty	■
Arthur Andersen	■
ASPA/SAMAS Group	□
Chubu Power Co.	□
DuPont	■
Eastman Kodak	■
Ernst & Young	
General Electric	■
IBM	■
Kokuyo Co., Ltd.	□
Osaka Gas	□
Project Office Furniture	
Rijksgebouwendienst	■
Steelcase	
Shimizu Inst. of Tech.	□
Xerox	■

■ Has program

□ Does not have program

[17] *A Guide to Flexible Work Systems*, Xerox.

Regular Part-Time Employment

A regular part-time employee is a permanent employee who works less than a full workweek. Many companies use part-time workers to control or reduce labor costs by hiring employees who work fewer hours for less pay and benefits than would be associated with a full-time employee, or to retain valuable workers who desire fewer hours.

The practice of regular part-time employment can be viewed as either a flexible scheduling alternative or a flexible staffing alternative depending on the motivation behind the practice. Some employees that would like to cut back on their hours or are attempting to re-enter the workforce after a temporary absence (i.e., extended illness, family/relative illness, family needs) choose to work only part-time with the organization. Some organizations, on the other hand, use part-time employees to reduce labor costs, prevent layoffs, etc.

In today's economy, many professionals are forced to turn to independent contracting, part-time, or temporary work to make a living. One of the biggest issues for part-timers right now is benefits; many part-time employees do not get health coverage, vacation time, sick time, holiday pay, or pension coverage. Often, these workers are paid on an hourly wage instead of a salary. While the lack of benefits is a drawback to employees working part-time, to the organizations this can mean substantial savings. In the U.S., the Clinton Health Insurance package, however, may significantly affect this type of flexible working by requiring organizations to pay a large portion of the part-time employee's health coverage. Employers may turn towards an alternate means of staffing, such as temporary agency hires or employee leasing to obtain the labor that they require. Because this area is so uncertain at this particular time, we will focus on this practice as a flexible scheduling alternative versus flexible staffing.

Part-Time Profile

Incidence Among Corporations

Part-time employment is one of the most prevalent forms of flexible scheduling world-wide. The Conference Board reported that 90% of the 512 responding U.S. organizations of their workplace flexibility

survey offered part-time employment as a scheduling alternative in the late 1980s.

Incidence Among Workforce

In the EC, 15% of all workers are classified as part-time (1990). Statistics for part-time workers for the United Kingdom and the Netherlands were higher than the EC average, with 21% and 27% respectively. These two countries alone account for almost half of all part-time workers for the entire EC (see Figure 10).

The Netherlands has the highest use rate of part-time people (both men and women) of all the EC countries. From 1985 to 1990, the percent of women working part-time in this country rose from 51% to almost 60%. Although men make up a small portion of the part-time labor force, the number of men opting for part-time schedules has increased from 8% to 15% over the same time period.

The United Kingdom showed a decrease in the number of women working part-time from 1985-1990, falling from 44% to 42%. Men, on the other hand, increased their use of part-time for the same period, climbing from 4% to 5%.

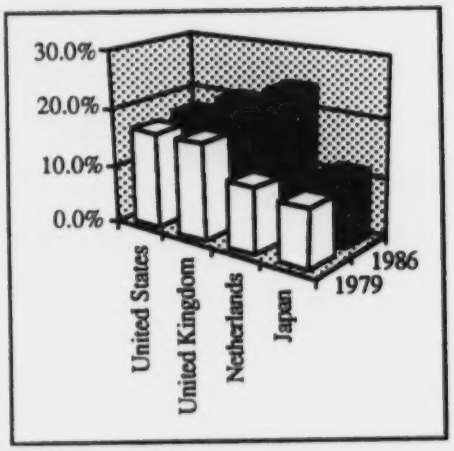

Figure 11: Percent of Part-Time Employees in Workforce Comparative
Source: Belous, Richard S. The Contingent Economy: The Growth of the Temporary, Part-Time and Subcontracted Workforce. NPA Report #239.

Business Types

The Conference Board study concluded that there was little difference in the use pattern of part-time workers across business types, but the AMS study disagrees. For the participants in the AMS study, the public-service sector was the leading employer of part-time workers in 1989, with 92% of the public-service sector organizations reporting the use of part-time employees. Insurance fell second with 88% of participating organizations reporting the use of this flexible scheduling alternative, followed closely by the banking/finance industries with 86% (see Table 8, next page).

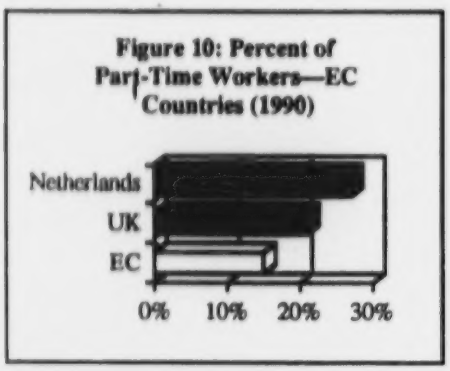

Figure 10: Percent of Part-Time Workers—EC Countries (1990)
Source: Commission of the European Communities, Employment in Europe: 1992.

Table 8: Part-Time by Type of Business (U.S.)

Business Type	1988	1989	% Change
Insurance	87%	88%	1%
Education/gov't/nonprofit	86%	92%	6%
Utilities/trans./comm.	52%	73%	21%
Manufacturing/processing	58%	71%	13%
Retail/wholesale	63%	62%	-1%
Business Services	67%	80%	13%
Banking/finance	86%	86%	0%

Source: American Management Society. 1989 AMS Flexible Work Survey. AMS Foundation Business Trend Survey Series. United States: 1990.

Table 9: Workscape 21 Sponsors—Regular Part-Time

	Regular Part-Time
Aetna Life & Casualty	■
Arthur Andersen	■
ASPA/SAMAS Group	□
Chubu Power Co.	□
DuPont	■
Eastman Kodak	■
Ernst & Young	
General Electric	■
IBM	■
Kokuyo Co., Ltd.	□
Osaka Gas	■
Project Office Furniture	■
Rijksgebouwendienst	■
Steelcase	■
Shimizu Inst. of Tech.	□
Xerox	■

■ Has program

□ Does not have program

Sponsor Initiatives

Arthur Andersen & Co. SC

Arthur Andersen & Co. SC was among the top 85 companies to work for in *Working Woman*'s 6th Annual Survey and in the top 100 companies for 1993. In the category of family-friendly benefits to employees, Andersen received four out of a possible five points each year. One of their most well-received flexible scheduling programs is their part-time program available to managers. Andersen's part-time program allows parents to work part-time for a period of up to three years, while still remaining on the partner track. In 1991, more than 400 managers had taken advantage of this program. At that time, these 400 employees represented 1.6% of their total workforce.

General Electric Co.

GE Capital Corp. hires approximately 500 part-time employees nationwide out of a workforce population of about 20,000 employees. Previous to 1986, the company had a policy of providing full benefits coverage to employees. This policy was later changed because the company felt that it was not "cost justified."[18]

Currently, part-time employees are able to chose whether they want the company health plan. If the employee opts for the health plan, they

[18]Galant, Debbie, "Are Part-Time Workers Getting Their Due?" *Institutional Investor*, July 1993: pg. 46.

must pay 50% of the premium. They are also eligible for a 50% match on their savings plans (this savings plan is available to all employees).

IBM

IBM and Andersen's part-time programs are very similar; IBM employees, particularly new parents, can opt to work part-time (20-30 hours per week) over a three year period. During that time, they are entitled to full benefits. After the three years, they can continue to work part-time if the desire, while receiving 75% of medical coverage.

Sponsor Comparison and Cultural Implications for Flexible Scheduling

Thirteen out of fifteen responding sponsor organizations use some form of flexible scheduling. The U.S. sponsor organizations were more likely to offer flexible scheduling alternatives than the sponsor organizations from other countries; 100% of the U.S. firms reported flexible scheduling programs in their organizations, while only a portion of the organizations from other countries reported the same (see Table 10).

Table 10: Workscape 21 Sponsors— Flexible Scheduling

	Flexible Work Scheduling			
	Flextime	Job Sharing	Compressed Workweek	Regular Part Time
Aetna Life & Casualty	■	■	■	■
Arthur Andersen	■	■	■	■
ASPA/SAMAS Group	□	□	□	□
Chubu Power Co.	■	□	□	□
DuPont	■	■	■	■
Eastman Kodak	■	■	■	■
Ernst & Young				
General Electric	■	■	■	■
IBM	■	■	■	■
Kokuyo Co., Ltd.	■	□	□	□
Osaka Gas	□	■	□	■
Project Office Furniture	◨	■	◨	■
Rijksgebouwendienst	■	□	■	■
Steelcase	■	■	□	■
Shimizu Inst. of Tech.	□	□	□	□
Xerox	■	■	■	■

■ Has program
□ Does not have program
◨ Under consideration

The most popular forms of flexible scheduling among the IWSP sponsor organizations were flextime and part-time programs, followed by job sharing and compressed workweeks, respectively. These figures agree with the worldwide statistics that indicate part-time work as one of the most well-received alternative scheduling arrangements. The Netherlands has one of the highest percentages of workers classified as part-time, with the majority of these workers being women. One explanation for this high percentage of part-time workers stems from a culture where the traditional family is strongly promoted. The Commission of European Communities reports in their 1992 Employment in Europe publication: "Institutional arrangements play a supportive role [in encouraging one member of the family to stay at home or work part-time in the Netherlands]: the Dutch fiscal rules and regulations of social security favour traditional families with one breadwinner and a dependent partner. Besides, the lack of adequate child care facilities results in the relatively low-expressed in time-labour-market participation of Dutch women. This is illustrated by the very large proportion of part-time working married women in the Netherlands (76%)."[19]

A similar situation exists in Japan, where the culture promotes very defined roles for both men and women, with men typically being the breadwinners while the women care for the family. Part-time employment is not as popular in Japan compared to the Netherlands, however, because the corporate culture is such that women find it very difficult to juggle home and even part-time work. The corporate culture demands that the worker is totally committed to the job (which may require late nights, frequent travel, and business entertainment). In addition, Japan also suffers from the lack of adequate child care outside of the home. Professional women, therefore, are often forced to leave their jobs completely after the birth of a child.

Again, part-time employment in the United States could be significantly affected by the Clinton Health Insurance proposal,

Summary of Flexible Scheduling Trends

- *Use of flexible scheduling increasing worldwide.*
- *Executives, administration, and managerial professionals more likely to work flexible schedules.*
- *Part-time most popular form of flexible scheduling worldwide.*
- *Job sharing and compressed workweeks, although present in the U.S., represent a very small proportion of the workforce.*
- *Government intervention has a definite impact in the use of flexible scheduling alternatives.*
- *U.S. sponsors more likely to report use of flexible scheduling than organizations from other countries .*

[19]Belgium. Commission of the European Communities. Employment in Europe: 1992. Employment, Industrial Relations, and Social Affairs. COM(92) 354. Luxembourg: 1992.

depending on whether employers will be required to pay a portion of the health care benefits for part-time workers. The United States could witness a substantial drop in the use of part-time employment by organizations that have not in the past provided these benefits.

Although national trends indicate that the presence/absence of a variety of flexible scheduling alternatives is directly linked to organization size, this trend did not appear to hold for the sponsor organizations. All of the U.S. sponsor organizations offer a variety of flexible scheduling programs, irrespective of organization size; Steelcase, the smallest organization among the U.S. sponsors with 21,000 employees offers almost the same variety of flexible scheduling programs as does General Electric, the largest of the U.S. firms with 298,000 employees. However, while Steelcase may be small in comparison to other organizations in the IWSP group, it is by no means a small company when compared nationally.

In Japan, the most popular flexible scheduling arrangement is flextime, but these flexible schedules tend to be fairly rigid in the times that people must start and quit working. The schedules are actually shifts that employees can choose to work, versus the flexibility around core hours that we see in other countries.

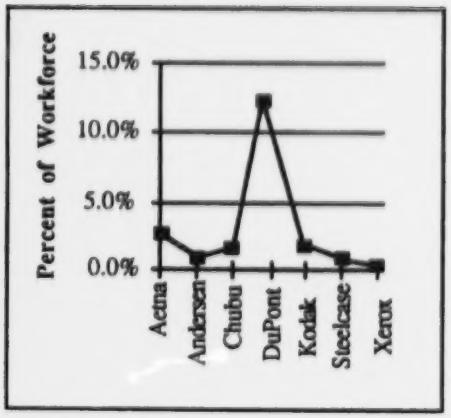

Figure 12: Sponsor Participation in Flexible Scheduling

Although most of the sponsor organizations report using some form of flexible scheduling, the actual number of participants involved in the different programs is still quite low (see Appendix C: Flexible Schedule Participation Rates and Figure 12). Of the sponsors that were able to provide participation rates, the largest percent of the workforce involved was the flextime program at DuPont. Fourteen-thousand of DuPont's 72,080 employees in the U.S. were reportedly taking advantage of the flextime program in 1993. This figure represents 20% of their U.S. workforce. This high involvement, however, is fairly atypical. The remaining organizations have participation rates much lower, most under 2.0%.

Flexible Scheduling Benefits

Some of the benefits that organizations report as a result of flexible scheduling alternatives include:

- Allows employees to balance family and career needs.
- Ability to retain employees that would otherwise have to leave the organization.
- Ability to attract quality employees and a more diverse workforce; skilled employees that multiple organizations are competing for, members of dual-income families, single-parent employees.
- Reduce traffic congestion during peak hours.
- Possible reduction in overtime hours.
- Extended coverage for some departments (i.e., customer service).
- More productive employees as a result of employees setting their own schedules when they are most productive.
- Reduced absenteeism as a result of employees being able to take care of personal affairs on non-company time.
- Greater employee job satisfaction.
- Reduced employee stress due to work, therefore reduced illness.

"Barriers" to Flexible Scheduling

Potential barriers—which in some cases may be based on untested or false assumptions—that organizations may encounter when trying to implement flexible schedules include:

- Governmental pressures/laws placing a maximum number of hours on employee workweeks. For example, some employees choose to work more than forty hours in a given week so that they can have more time off the following week. This becomes difficult if laws, such as EC Directives, do not allow employees to work more than the maximum hours per week (see Appendix D: EC Directives on Work Times).

- In some of the flexible scheduling alternatives, such as job sharing or part-time work, organizations must consider how to distribute benefits to participating employees. In some cases/countries, organizations may be required to provide full-time benefits, which may discourage implementation of flexible scheduling.

- Perceived difficulties with communication/meeting scheduling. Many time organizations feel that they will not be able to contact people if they are working at all hours of the day. This is a perceived barrier to many new work locations as well. A combination of new telecommunications technologies and management practices can address these issues.

Facility/Facility Management Implications for Flexible Scheduling

Some of the Facility/Facility Management implications of implementing flexible scheduling alternatives include:

- As a result of flexible scheduling, employees will be coming in to the office at varying hours. To support these flexible work patterns, services such as security, heating, etc., must be provided outside of core hours. Some companies have installed building systems technology that activates the heating and lighting as soon as a person swipes their identification card through the security sensor. Other systems are activated through the use of movement detectors. Whichever method the company decides to invest in, the result must be that the employees are able to perform their work outside of the core hours with the same level of support they would receive during normal operating hours.

- Many of the traditional space management policies in use by management today do not position companies to realize benefits of fluctuating/reduced staff levels. As mentioned earlier in the report, flexible scheduling alternatives traditionally have been implemented to increase the quality of working life for employees, with little perceived benefit to the organization as a whole. A genuine flexible management system, where employees are free from time and location constraints, naturally incorporates a flexible office environment that supports the changing work needs of

flexible employees.[20] In many cases, this flexible environment results in reduced space requirements/costs to the organization. These flexible environments also can result in a corresponding increase in worker effectiveness and satisfaction. Under traditional space management policies, with the "one person-one desk" mentality, organizations may not find that they are able to realize these benefits.

- Permanent ownership of space may come under question. As organizations begin to realize that a substantial portion of their employees are working out of the office at any given time, the traditional space management policies need to be rethought.

- Single flexible scheduling alternatives may not have a very large impact on the organization as a whole. As these arrangements are used in conjunction with other flexible arrangements, such as teleworking or telework centers, the impact is much more profound. These strategies must be viewed as an integrated workplace system, versus as individual programs, in order for the organization to receive the maximum benefits.

[20]See Becker, Quinn, Rappaport, and Sims, *Facility Innovation Process: From Pilot Project to Standard Practice*. Cornell University International Workplace Studies Program, 1993.

Flexible Staffing

Flexible staffing involves an organization's use of a contingent workforce ring to supplement the normal core of employees on an as-needed basis. Unlike flexible scheduling, which responds to changing workforce demographics, lifestyle changes, and government regulations intended to reduce traffic congestion and air pollution, flexible staffing has been driven more by a fierce competitive climate that has led organizations to downsize, reorganize and reduce headcount. These practices are intended to increase the organization's labor flexibility in the face of unpredictable and constantly changing business conditions. The use of contingent workers allows organizations to increase or reduce staff quickly and easily as the needs of the organization change.

The flexible staffing arrangements highlighted in this report are: temporary agency hires, independent contractors, and internal temporary pools.

Flexible Staffing Options:

- *Temporary agency hires*
- *Independent contractors*
- *Internal temporary pools*
- *Employee leasing*
- *Temporary-fixed term contract*
- *Outsourcing*

Table 11: Flexible Staffing Definitions—Revisited

Flexible Staffing:	Using a contingent workforce ring to supplement an organization's regular full time staff.
Temporary Agency Hires:	Employees of a temporary agency whose services are contracted for by a company. Temporary hires are considered employees of the agency, not of the organization.
Independent Contractors:	Self-employed workers hired for a specific project or duration, such as consultants or free-lancers. Independent contractors are often hired because they possess special skills not readily available within the organization.
Internal Temporary Pools:	A group of people, managed by the company "on-call" in case they are needed.
Temporary —Fixed Term:	Temporary employees hired by the organization for a fixed period of time. Similar to independent contracting except that independent contractors can often be working for more than one organization at a given time.
Leased Employees:	Employees that are leased by the organization from an outside agency. These employees are considered part of the agency, not the organization. Leased employees differ from temporary agency hires in that temporary agency hires are often used for a fixed period of time, whereas leased employees can often hold what would otherwise be a permanent position.
Outsourcing:	Outsourcing is when an organization contracts out work to an outside organization. In the past, services such as cleaning, catering, and laundry were often that only forms of outsourcing. A current trend is for organizations to outsource whole departments such as customer service, human resources, and accounting.

Temporary Agency Hires

Temporary hires are workers that are contracted by an organization through an outside agency for a limited amount of time. Temporary hires are considered employees of the agency, not of the organization. Traditionally, corporations hire these temporaries to perform their clerical work and light industrial tasks, but the use of more specialized temporaries is increasing in the 90s.

Another form of agency hires that is becoming more widespread in the 90s is employee leasing. Employee leasing is very similar to temporary agency hires in that they are both examples of employees working in an organization that actually "belong" to an outside agency. One major difference between these two forms of flexible staffing is the length of time for which they are "employed" at the organization; temporary hires are usually used for short-term assignments, whereas leased employees usually hold positions that would otherwise be full-time within the organization, such as an account executive. A second major difference between leased and temporary workers is job type; leased employees also tend to hold management/administrative positions, whereas temporary agency hires tend to fill clerical/administrative support positions.

Temporary Agency Hire Profile

Incidence Among Corporations

According to the Conference Board, the most popular form of alternative staffing arrangements in the U.S. in 1988 was temporary agency hires. Almost all (97%) of the participants in their flexible practices study opted for hiring temporaries as a staffing method. The industry experienced an incredible growth rate from 1971 to 1988, with temporary payrolls exploding from $431.6 million to $10.8 billion during this time period.[21]

After 1988, however, the average number of temporary hires used in businesses took a down-turn. From 1989 to 1990, the average number

[21]Zipser, Andy, "Temporary Stall: Employment Companies are Poised to Rebound." *Barron's*, July 1991: pg. 18.

of daily temporary hires decreased by 2.6% (see Figure 13).[22] Experts say that this sort of trend is typical of temporary hire use patterns during the recession; in the past, temporaries have been used by organizations to handle temporary increases in workload or to substitute for a temporary shortage of labor. When the economy is bad, companies do not have as great a need for temporaries.

Experts also predict that the use of temporaries will increase as the economy recovers. Merrill Lynch has predicted that the temporary workforce will increase by 5%-7% a year up until the year 2000. [23]

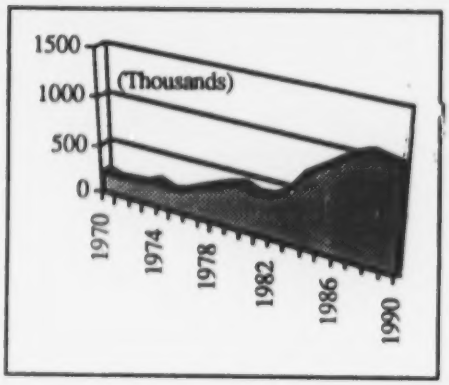

Figure 13: Average Number of Daily Temporary Hires
Source: Zipser, Andy, "Temporary Stall: Employment Companies are Poised to Rebound." *Barron's*, July 1991: pg. 18.

Business Types

The use of temporary hires is fairly consistent across business types, but tends to be somewhat higher for manufacturing companies versus non-financial services and financial services.[24] In Japan, the statistics for individual business types are somewhat different, with the largest employers of temporaries being finance organizations, followed by energy supply organizations and real estate.[25]

Incidence in Workforce

The number of people employed by temporary agencies in the United States grew 400% between 1970 and 1986, from 184,000 to 760,000.[26] There are now a reported 1 million people employed by temporary agencies. Among the corporations reporting the use of temporary hires, however, these people make up less than 1% of the regular workforce.[27]

Job Types

Temporaries employed to perform clerical and administrative support duties make up the majority of workers classified as temporary hires in

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[22] Ibid.
[23] Ibid.
[24] Christensen, Kathleen. Flexible Staffing and Scheduling in U.S. Corporations. The Conference Board. Research Bulletin No. 240. New York: 1989.
[25] System Science Institute. "Analysis of New Life Trend & Study of the Future (Historical Survey)." NTT Data Communication , 1991.
[26] United States. The Changing Workplace: New Directions in Staffing and Scheduling. The Bureau of National Affairs, Inc. Washington, D.C.: 1986.
[27] United States, Ibid.

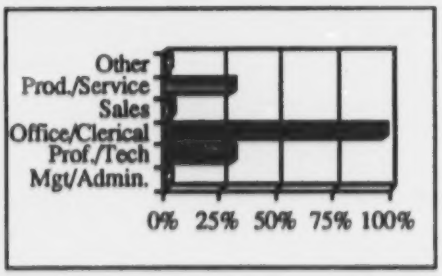

Figure 14: Percent of Organizations Using Temporary Agency Hires by Job Type—U.S. 1986
Source: United States. The Changing Workplace: New Directions in Staffing and Scheduling. The BNA, Washington, DC: 1986.

Table 12: Workscape 21 Sponsors—Temporary Agency Hires

	Temporary Agency Hires
Aetna Life & Casualty	☐
Arthur Andersen	
ASPA/SAMAS Group	■
Chubu Power Co.	■
DuPont	■
Eastman Kodak	■
Ernst & Young	
General Electric	
IBM	■
Kokuyo Co., Ltd.	■
Osaka Gas	■
Project Office Furniture	☐
Rijksgebouwendienst	☐
Steelcase	
Shimizu Inst. of Tech.	■
Xerox	☐

■ Has program
☐ Does not have program

the U.S. (see Figure 14). The use of temporaries for these job types remained fairly consistent into the nineties. In 1986, managerial and administrative temporaries made up only 1% of the total temporary workforce. This figure jumped to 4.6% in 1989, but has been declining in the nineties. A study conducted by the National Association of Temporary Services estimates that the percent of professional temporaries dropped to 2.4% by the end of 1991. This could be due in part to the introduction of employee leasing organizations in the 1990s. More of these leased employees are being contracted to perform managerial functions, versus temporary agency hires.

More specialized temporaries, such as medical temporaries, scientists, accounting, tax, banking, and data processing temporaries, on the other hand, have increased their percent of the workforce in the 90s in the U.S. For example, medical temporaries have increased their percentage of the temporary workforce from 8.0% to 11.4% in 1991. The effect of this segment on the overall number of temporary workers has allowed the industry to continue growing in the 1990s, but at a much slower rate due to the decline in professional temporary hires.

Job types of temporaries in Japan is very similar to those in the United States, with the majority of temporaries being used as data entry/other clerical personnel in 1990. The use of temporaries for systems engineering and computer operators was also fairly high for 1990, with between 35-40% of companies reporting temporary workers responding that they were used for these purposes.[28]

Sponsor Initiatives

Kokuyo Co., Ltd.

As of December 1992, Kokuyo Co., Ltd. in Japan had 80 temporary hires and 60 of what they refer to as independent contractors. According to the definitions used for this report, these independent contractors are actually leased employees in that Kokuyo contracts these people from outside staffing agencies.

[28]System Science Institute, Ibid.

Temporary agency hires are defined as those people that are contracted to perform work as a result of temporary labor shortages. These labor shortages are the result of temporary conditions, such as retirement of personnel, seasonal workload, and reorganization. These agency hires are used primarily in clerical positions.

The "leased employees" are defined as those employees that are contracted because of a shortage of skills within the organization, such as telephone operation, CAD operation, computer maintenance, and PC instruction. These people are contracted for longer periods of time than the temporary agency hires.

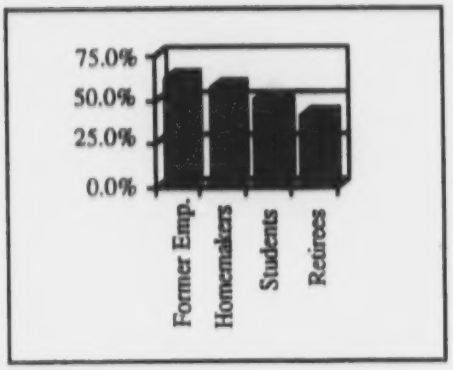

Figure 15: Organizational Use of Types of People for Internal Temporary Pools
Source: United States. The Changing Workplace: New Directions in Staffing and Scheduling. The BNA, Washington, DC: 1986.

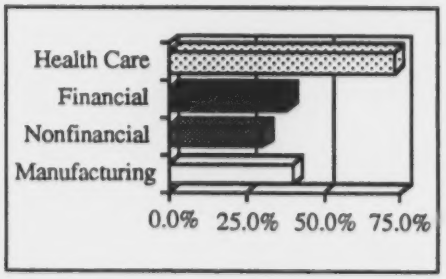

Figure 16: Percent of Organizations Using Internal Temporary/On-Call Workers by Business Type—U.S. 1986
Source: Christensen, Kathleen. Flexible Staffing and Scheduling in U.S. Corporations. The Conference Boards. Research Bulletin No. 240. New York: 1989.

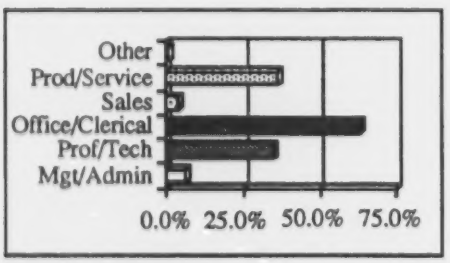

Figure 17: Percent of Organizations Using Internal Temporary Pools/On-Call Workers by Job Type—U.S.
Source: United States. The Changing Workplace: New Directions in Staffing and Scheduling. The BNA, Washington, DC: 1986.

Internal Temporary Pools

Internal temporary pools are groups of people that are managed by the company and are "on-call" in case they are needed. These people can either be employees of the organization or external hires. Many companies are opting for this method of flexible staffing over staffing through temporary agencies because they have more control over the hiring process. Many times the on-call workers are former employees of the company that may not desire full-time employment, or they are recent retirees that would still like to work for the company (see Figure 15).

Internal Temporary Pool Profile

Incidence Among Organizations

The Conference Board reports that almost 40% of the companies interviewed for flexible practices use some form of internal temporary pool or on-call employee system. This figure is somewhat higher than that reported by the Bureau of National Affairs (BNA) in 1986 of 36% of responding firms.

Business Type

The highest use of on-call/internal temporary pools exists in the health care industry, with 73% of health care organizations reporting that they use this flexible staffing arrangement (BNA, 1986). The Conference Board study indicates that there is little difference among types of business with regards to the use of internal temporary pools, but that manufacturing companies tend to rely more heavily on this method than nonfinancial service companies and financial service companies (see Figure 16).

Job Types

The majority of internal temporary workers perform office/clerical duties and are more likely to be women. Very few internal temporaries have managerial or administrative responsibilities (see Figure 17).

Sponsor Initiatives

Project Office Furniture

Project Office Furniture in September of 1992 began plans for the creation of an extensive internal temporary pool for their organization. Recognizing that in order for their workforce to respond better to fluctuating demand levels their resourcing needed to be more elastic, Project asked the entire workforce how they would like to organize an internal temporary pool in their specific areas. They also solicited the names of people that employees thought would like to participate in such a program, such as former employees, homemakers wishing to enter the workforce, people who have been made redundant, etc.

Employees were also asked if they would like to change the way that they worked for Project; to participate in the program to work in the best fashion to suit their own lifestyle needs/ambitions and still benefit the organization.

Key considerations in their program were: the development of a plan for managers to communicate the benefits of the flexible staffing arrangements effectively and positively to the employees, development of imaginative solutions to ways that tasks were resourced, and the development of actual flexible packages that took into consideration the school day and year, tax and pension implications, guarantees of minimum work in a given period.

Table 13: Workscape 21 Sponsors—Internal Temporary Pools

	Internal Temp. Pools
Aetna Life & Casualty	■
Arthur Andersen	
ASPA/SAMAS Group	□
Chubu Power Co.	■
DuPont	■
Eastman Kodak	□
Ernst & Young	
General Electric	
IBM	■
Kokuyo Co., Ltd.	□
Osaka Gas	■
Project Office Furniture	◨
Rijksgebouwendienst	□
Steelcase	
Shimizu Inst. of Tech.	□
Xerox	■

■ Has program
□ Does not have program

Independent Contractors

Independent contractors are people that are hired outside of the organization for a period of time. These people can be consultants, free-lancers, or other types self-employed people.

Independent Contractor Profile

Incidence Among Organizations

The use of independent contract labor is increasing worldwide in the 1990s. A large number of white collar employees are being laid off or encouraged to take early retirement in the 1990s, and many of these workers are coming back to the organization through independent contracting. In 1988, almost 75% of all organizations reported using this form of staffing. At that time, however, the number of contractors hired by the organizations tended to be small. If the same question was asked of organizations today, not only would more organizations report using this staffing method, the number hired would also be substantially higher.

Table 14: Workscape 21 Sponsors—Independent Contractors

	Indepedent Contractor
Aetna Life & Casualty	■
Arthur Andersen	
ASPA/SAMAS Group	□
Chubu Power Co.	□
DuPont	■
Eastman Kodak	■
Ernst & Young	
General Electric	
IBM	■
Kokuyo Co., Ltd.	■
Osaka Gas	■
Project Office Furniture	■
Rijksgebouwendienst	■
Steelcase	
Shimizu Inst. of Tech.	□
Xerox	■

■ Has program
□ Does not have program

Job Type

Independent contractors tend to be hired because they possess a special skill that may not be widely available in the organization. Professionals, by and large, make up the majority of workers falling under this category. The Conference Board reports that in 1988, professionals made up approximately 80% of all workers employed under independent contract. Clerical workers and production/service labor comprised the remaining 20% of independent contractors, with 12% and 8% respectively.

Sponsor Initiatives

Rank Xerox

Rank Xerox began their independent contracting program in October of 1981.[29] The program was originally designed to reduce the cost of their office space without losing quality employees. Rank Xerox was also attempting to test and promote technology that had been developed in the organization.

[29]Digital Equipment Corporation, Catalogue of New Work Practices. People for the 90s. London, 1989: pg. 46.

Employees were asked to work for the company on a contract basis. Most contracts were set for the employees to work one or two days per week for the organization, and the remaining time during the week they could devote to their own personal needs.

Rank Xerox gave all of the participating employees, mostly senior and middle management, tools and other means of support for working as an independent contractor, such as advice on home offices, some furniture, a Rank Xerox microcomputer, assistance in tax and book-keeping.

By 1989, fifty-five former employees at Rank Xerox were participating in the program. Benefits cited by the participants included:

- increased flexibility
- greater freedom in their work and personal lives
- greater variety in their work.

Sponsor Comparison and Cultural Implications for Flexible Staffing

All of the sponsor organizations responding to the flexible staffing category of work practices reported using some form of flexible staffing arrangement.

Table 15: Workscape 21 Sponsors—Flexible Staffing

	Flexible Staffing		
	Temporary Agency Hires	Indepedent Contractor	Internal Temp. Pools
Aetna Life & Casualty	□	■	■
Arthur Andersen			
ASPA/SAMAS Group	■	□	□
Chubu Power Co.	■	□	■
DuPont	■	■	■
Eastman Kodak	■	■	□
Ernst & Young			
General Electric			
IBM	■	■	■
Kokuyo Co., Ltd.	■	■	□
Osaka Gas	■	■	■
Project Office Furniture	□	■	◨
Rijksgebouwendienst	□	■	□
Steelcase			
Shimizu Inst. of Tech.	■	□	□
Xerox	□	■	■

■ Has program
□ Does not have program
◨ Under consideration

Although many sponsors report using a form of flexible staffing, flexible staffing arrangements are actually not very common. Many of the sponsor organizations use only one of the three staffing alternatives, compared to multiple flexible scheduling arrangements. The actual

number of employees involved in the programs also tends to be quite low.

One reason that flexible staffing is not as prevalent among the sponsor organizations may have to do with the state of the economy. A contingent workforce is usually used to support the normal core of employees, either because of workload demand or because of special skills. During this recession, many firms are trying to reduce the size of their workforces, so they will be less likely to add to it by hiring temporaries (both agency hires and internal temporary). The staffing exception to this theory may be independent contracting, because as mentioned earlier, many people who have left the company for one reason or another are subsequently hired back as independent contractors.

In addition to reducing the size of the workforce during the recession, many companies may not be doing as much business as they were in the past. The workload, therefore, may not be heavy enough to warrant using a contingent workforce.

The least popular form of flexible staffing among the sponsors is internal temporary pools. Again, this may stem from the recent recession. Many organizations are trying to cut back on the number of support staff (clerical workers, administrative support people). Statistics indicate that these job types make up the majority of internal temporaries.

Summary of Flexible Staffing Trends

- *Used primarily as a means of reducing the workforce size or to meet fluctuating workload demands.*
- *Use increasing at a much smaller rate than flexible scheduling.*
- *Temporary agency hires receives more criticism by companies than other forms of flexible staffing because of lack of control over hiring process.*
- *Temporary hires have, in the past, been used primarily for office support/clerical, but more and more are being used for management positions in the 1990s.*

Flexible Staffing Benefits

Some of the benefits that organizations report as a result of flexible staffing alternatives include:

- Ability to vary staff size according to workload demand.
- Ability to hire special skills people according to need without having to add a full-time position in the organization.
- Ability to reduce labor cost as a result of not having to pay benefits.

- Allows organizations to have a choice that is similar to the manufacturing concept of "make or buy." Organizations can weigh the cost of having to perform certain tasks themselves or hiring an outside organization to perform the tasks.

- Allows many specially skilled people to use their skill in different organizations. For example, independent consultants with special skills that may not be required by an organization full time can perform their skill for a number of organizations, and thus be employed full time.

"Barriers" to Flexible Staffing

Potential barriers—which in some cases may be based on untested or false assumptions—that organizations may encounter when trying to implement flexible staffing alternatives include:

- Lack of control over the hiring process for agency employees. Employees actually "belong" to the agency, not the organization. The organization in a sense hires the agency, and the agency then hires the worker. Some organizations prefer a tighter sense of control over the hiring process.

- Security issues. Many of the contracted employees that are working temporarily in the building are not tied to the organization in any way. Some organizations are unsure about how to maintain security with these types of employees.

- The belief that anyone who is not full time with the organization is not as committed or loyal to the organization as someone who is full time.

Facility/Facility Management Implications for Flexible Staffing

Some of the Facility/Facility Management implications of implementing flexible staffing alternatives include:

- With flexible staffing arrangements, people who are not necessarily a part of the organization must be granted access to parts of the building. Security issues, such as how to limit access to sensitive sections of the building or to information must be addressed.

- Fluctuating staff levels throughout the organization. As more flexible staffing arrangements are implemented in the organization, the number of employees on any given day will vary. The organization must provide working space for these people, as well as develop some sort of schedule to track where these employees are and available workstations. The facility must be flexible enough to accommodate both the core employees and the contingent workforce.

- Again, as with flexible scheduling alternatives, single flexible staffing alternatives may not have a very large impact on the organization as a whole. As these arrangements are used in conjunction with other flexible arrangements, such as teleworking or telework centers, the impact is likely to be much more profound. These strategies must be viewed as an integrated workplace system, versus as individual programs, in order for the organization to receive the maximum benefits.

Flexible Work Locations

Flexible work location practices involve any departures from the standard practice of working in the same location every day at an assigned desk, workstation, or office. Flexible work location, in this study, refers to non-traditional work locations and to atypical ways of allocating space. Examples of such practices include working at telework centers, working at home, indifferent forms of non-territorial offices, or simply working at different locations within the office.

Flexible Work Location Options

- *Shared assigned offices*
- *Office swapping*
- *Flexible work locations within a building*
- *Home-based telecommuting*
- *Non-territorial offices*
- *Telework centers*
- *Resort offices*

Companies today are implementing a variety of alternative work location arrangements for a number of reasons. Some organizations are using teleworking or remote working as a way of reducing transportation problems in their areas or to comply with the Clean Air Act in the United States. Other organizations may use these types of programs to increase the size of their labor pool by including people that would otherwise not be able to work, such as handicapped people or families with child-care considerations. Still other organizations see flexible work locations as a means of reducing employee stress from commuting, balancing home and work life, etc. while improving the employee's overall quality of life. For many organizations, however, alternative work locations are seen as a means of reducing their overall real estate costs.

Charles Handy, in his article "Work is Where I Have My Meetings," writes:

> "Office buildings are the most expensive asset of many a firm; they stand there 168 hours a week, but they are occupied, usually, for only 60 of those hours... [Employees] are out working- meeting clients or suppliers, attending conferences or courses, visiting other locations of the business. For many,...the office is not much more than a luxurious filing cabinet."

Companies are becoming increasingly aware that many employees are working less and less in the office. The question then becomes, "If people are out of the office much of the time, do they need an office assigned to them all of the time?" This section looks at some of the

alternatives that organizations are implementing to make the best use of their offices and employees. It will specifically focus on: shared assigned offices, flexible work locations within a building, office swapping, home-based telework, non-territorial offices, and telework centers. Because these flexible work practices are fairly new, there is very little historical demographic information available. When available, these statistics will be provided.

Table 16: Workscape 21 Sponsors— Flexible Work Locations

	Flexible Work Locations					
	Shared Asgnd. Offices	Flex Loc. w/ in a Bldg	Office Swapping	Home-Based Telework	Non-Territ. Offices	Telework Centers
Aetna Life & Casualty	■	□	□	■	■	□
Arthur Andersen	■	■	□		■	□
ASPA/SAMAS Group	□	■	□	■	■	□
Chubu Power Co.	□	□	□	□	□	□
DuPont	□	□	□	■	□	□
Eastman Kodak	■	□	□	■	■	□
Ernst & Young	■	□	□	□	■	□
General Electric	◨				◨	
IBM	■	■	□	■	■	□
Kokuyo Co., Ltd.	□	□	□	□	□	□
Osaka Gas	□	■	□	□	□	□
Project Office Furniture	■	◨	□	◨	□	□
Rijksgebouwendienst	■	□	■	■	□	□
Steelcase	□	■	□	■	■	□
Shimizu Inst. of Tech.	□	□	□	□	■	□
Xerox	□	□	□	□	□	□

■ Has program
□ Does not have program
◨ Under consideration

Shared Assigned Offices

A shared assigned office is an office in which two or more employees are assigned the same desk, workstation, or individual office. The users share the space using any one of a number of scheduling methods which may include: first come, first served basis; a formal schedule; or an advance reservation system.

Sponsor Initiatives

Ernst & Young, London

The Management Consulting Services (MCS) division of Ernst & Young in London has been using shared assigned offices/workstations since 1989. The MCS department is housed in a building in The City of London, where real estate costs are very high. The original driver behind going to shared assigned offices was to reduce departmental costs by reducing the space requirements for this department.

Photo 1: Typical management consultant shared workstations

Three or four employees are assigned to a specific workstation. Workstations are occupied on a first come, first served basis. If a person arrives to find the workstation already occupied by one of the other "owners," he/she is permitted to use any available workstation. If, however, the owner of that workstation arrives, the person must again move to an unoccupied workstation.

The shared assigned approach was a compromise to accommodate the two different cultures brought together when Arthur Young merged with Ernst and Whinney. One firm had already been using a form of non-territorial office; the other had assigned offices. In practice, the system evolved toward a true non-territorial office since it was not uncommon for more than one person to show up during the same time. Asking someone to move when there was an identical empty desk next to it made little sense. So even if someone was entitled to sit at a particular desk, if that desk was occupied, they often just sat at whatever nearest desk was unoccupied; in effect, creating a non-territorial system.

Photo 2: Executive consultant shared workstations

Table 17: Ernst & Young Summary–Shared Assigned

	Ernst & Young
Where is the NWP occurring	London
Number of users	96
Number of workstations	65
Users per workstation	3-4 users/work station
Drivers/ goals of the program	reduce costs by reducing space req.
Size of each office	85 sq ft
User selection process	selected
Job Types	management consultants
Days/week in the shared office	1 day/month to 3-4 days/week
Is it a Pilot Project	Yes
Beginning	1988
Where are these users working the rest of the time	clients
Outcome	25% users rate same 25% users rate better
New projects planned	Yes

Table 18: Workscape 21 Sponsors—Shared Assigned

	Shared Asgnd. Offices
Aetna Life & Casualty	■
Arthur Andersen	■
ASPA/SAMAS Group	□
Chubu Power Co.	□
DuPont	□
Eastman Kodak	■
Ernst & Young	■
General Electric	◨
IBM	■
Kokuyo Co., Ltd.	□
Osaka Gas	□
Project Office Furniture	■
Rijksgebouwendienst	■
Steelcase	□
Shimizu Inst. of Tech.	□
Xerox	□

■ Has program
□ Does not have program
◨ Under consideration

Sponsor Comparison and Cultural Implications for Shared Assigned Offices

In our experience these kinds of offices have appeared more in England or Europe (i.e., Netherlands) than in the United States or Japan. The feedback we have had about them suggests that they are not well-liked. In part this is because more psychological tension actually seems to be generated by being assigned to an office that you know someone else also has a legitimate right to use than being assigned a totally free address office on which, at least for the time you are present, no one else has a legitimate claim.

Another explanation for the poor reception of shared assigned offices may be that many organizations do not make the shared assigned offices "worth the trade." Companies convert the employees' private offices, workstations, or desks to shared territory without giving them anything in return. Changes in the layout to create different types of workspaces or group areas, or the introduction of portable technology would contribute to employees' willingness to give up their private space.

Flexible Work Locations Within a Building

In many offices, working in different locations within the building is an informal practice that has been going on for some time. Many employees that cannot get work done at their own workstation or office (either because of noise/interruption or because of inappropriate space or equipment) will find a different place in the building to work, such as a conference room or library. Recognizing the fact that different tasks may require different types of space, furniture, and technology, some organizations are designing their buildings to promote the use of a variety of specially designed work areas that goes beyond provision of conference rooms and libraries. The employees are encouraged to select a work location based on the nature of the work they are doing and their own work style and preferences. For example, employees working on a team project may decide to use a space that can accommodate many people and materials, while an employee wishing to perform highly concentrative work may seek out an enclosed office or workstation.

To exploit the potential of access to many different types of work areas, employees in many cases need the support of technology that allows for flexibility, such as portable computers, cordless and cellular telephones.

Flexible work locations in some companies, like Digital Equipment Corporation and SOL Cleaning Company in Finland[30] and Steelcase in the United States, include a wide range of seating types (e.g., sofas, reclining chairs, bar stools as well as ergonomic desk chairs), food and beverage areas within the work area, quiet zones or rooms for individual concentration, small group meeting areas near in work areas, larger meeting areas, different size and types of informal interaction and break-out areas, and so on. More typically, flexible work locations include a "common" area with a small conference table near workstations and some kind of informal break area, also within the work area itself or in a part of the building intended for work, not just for reception or relaxation. The intent of flexible work locations in a

[30]See Becker, Quinn, Rappaport, and Sims, *Facility Innovation Process: From Pilot Project to Standard Practice*. Cornell University International Workplace Studies Program, 1993.

building is to promote informal interactions, and to enhance employee performance by allowing employees to choose where they work depending on their task, mood, or stage in a project.

Sponsor Initiatives

Samas Group/Aspa

Located in Utrecht, Netherlands, this office building provides employees with several alternate spaces for working. Aside from the standard office space, Aspa supplies workers with team rooms, conference rooms, a cafeteria, an informal seating area, and an informal meeting space. The most popular of the spaces are the team rooms, of which Aspa has provided two. Most of the workers have portable computers and can use these alternative workspaces whenever they desire. Aspa is currently looking into a telephone system that will allow the employees to have one phone with them wherever they are (work, car, clients, or home), which will enhance the employees' ability to work at the different spaces.

Photo 3: Informal seating area with "chariot" chairs

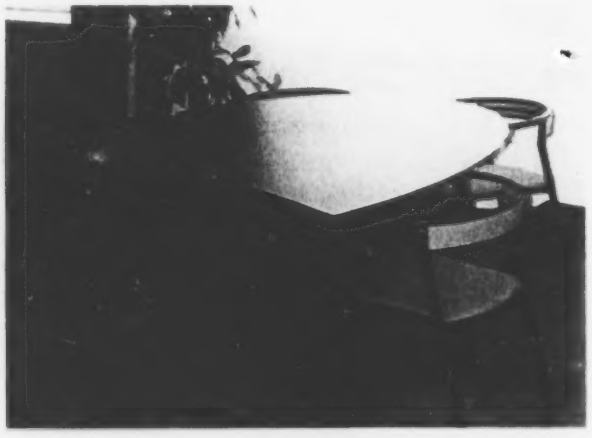

Photo 4: Reconfigurable table

Steelcase, Inc.

Steelcase's Corporate Development Center in Grand Rapids, Michigan was designed from the beginning as a tool to support fundamental organizational objectives: i.e., speed the product development process cycle and to generate more innovative products. The building offers employees a variety of unique workspaces to chose from to conduct their work, such as: common areas in neighborhood work centers; a resource center with small, fully enclosed offices for concentrative work; break areas fitted out with whiteboards and different types of seating; and outside patio areas.

A number of principles guided the design at the CDC. These include:

- The idea of "functional inconvenience," that is, that dedicated project rooms should be located in areas that are NOT adjacent to particular departments or work teams.

- "Cave and commons," in which each employee is provided with a slightly smaller individual workstation , with these workstations surrounding a common group area that can be used for meetings, reviewing products and other work.

- The placement of a resource center at the top of the building to pull people through the building. Within this resource center, small, fully enclosed offices are provided for highly concentrative work.

- Beverage centers and informal break areas outfitted with coffee and other beverages and white boards and comfortable seating.

Photo 5: Typical individual workstations

Photo 6: Informal meeting area

Table 19: Sponsor Comparison— Flexible Work Locations within a Building

	Aspa	Steelcase
Where is the NWP occurring	Utrecht	Grand Rapids, Michigan
Number of Users	6	n/a
Drivers/ goals of the program	improve productivity/ flexibility	Speed product development Generate more innovative products
Potential range of work locations	conference rm., team rms., informal areas, cafeteria	"cave and commons", team rms, resource cntr, informal areas, and fully enclosed offices
Participants	all employees except support staff	•
Selection process for the users	no	•
Job Types	consultants, researchers	•
How much time is spent in other locations	n/a	•
Pilot Project	No	•
When did this NWP Begin	n/a	•
Where are these users working the rest of the time	Own desks, home, clients	•
Outcome	n/a	•
New projects planned	n/a	•

Sponsor Comparison and Cultural Implications for Flexible Work Locations Within a Building

Scandinavian companies have a long history of providing outstanding building amenities to their staff, ranging from coffee bars to beautifully furnished commons areas. The difference in the offices we are considering here is that the offices are being designed not simply to promote the comfort and pleasantness of employees, but to support greater work effectiveness and productivity, especially among groups and teams. The fact that the most extreme examples of these kinds of offices have been found in Scandinavia seems, however, more than a chance occurrence. It is mostly in Scandinavia that a kind of residential design style, which views comfort and relaxation as integral to work, occurs in organizations, and especially job types, that in the rest of the world tend to be rather rigid in their views of what forms the office can take; i.e., sales, human resources, and facilities management. In the United States and even in Japan (where there is a strong emphasis today on providing highly pleasant environments) the workplace for these kinds of job functions still tends to reflect very little of residential design or of anything other than the traditional office design. While there is more commitment to supporting diverse workstyles, these are still—outside of Scandinavia—restricted to providing more or less different kinds of standard office environments: a project room, break area, quiet room. The exceptions in the United States and elsewhere have been advertising agencies (i.e., Chiat/Day) and other "creative" lines of work where being avant garde is considered not only acceptable but necessary.

Table 20: Workscape 21 Sponsors—Flex. Loc. w/in a Bldg.

	Flex Loc. w/ in a Bldg
Aetna Life & Casualty	☐
Arthur Andersen	■
ASPA/SAMAS Group	■
Chubu Power Co.	☐
DuPont	☐
Eastman Kodak	☐
Ernst & Young	☐
General Electric	
IBM	■
Kokuyo Co., Ltd.	☐
Osaka Gas	■
Project Office Furniture	◨
Rijksgebouwendienst	☐
Steelcase	■
Shimizu Inst. of Tech.	☐
Xerox	☐

■ Has program
☐ Does not have program
◨ Under consideration

Office Swapping

Office swapping occurs when organizations with multiple offices allow employees who live in one location and work in a more distant office to use a dedicated space in the office closest to them rather than commuting to their regular office.

There are many different possible office swapping arrangements, ranging from employees of the same organization swapping work locations to employees of different organizations swapping their workspaces. As in any office arrangement, the spaces involved may be assigned private offices or workstations, non-territorial open plan offices, or any other workplace alternative. In some cases, employees may set up a formal schedule of exchange days, or it may be on an informal as-needed basis.

Sponsor Initiatives

Dutch Federal Government

The Ministry of Transportation and Water Works has two offices located in Den Haag and Rotterdam. Employees who live in Den Haag and work in Rotterdam (or vice-versa) are permitted to work one-to-two days per week in their home city office rather than commuting between the cities. The swapping arrangement was established to help reduce transportation and traffic congestion, particularly during rush hour, and to increase individual flexibility, productivity, quality, and time management.

There are 200 people working for the Ministry of Transportation who must commute to offices outside of their home city, 50 of whom volunteered to participate in the office swapping program. Employees have to write a joint statement with their employers specifying when they will be working and available at the swapped office. There are no assigned days to use the alternate offices. A reservation system is being considered so that the number of users will not exceed the available workstations on a given day.

Sponsor Comparison and Cultural Implications for Office Swapping

As the Dutch Federal Government office swapping program is the only project of this type that we have found among the sponsor organizations, it is impossible to compare cultural differences/implications. It would not appear that there are any unusual cultural barriers to using this kind of work environment in any of the sponsor countries. In fact, for companies with surplus space in some of their sites, making "drop-in" space available to their own or other companies' employees could be a way of intensifying space use and promoting flexibility at no added cost to the organization.

Table 21: Dutch Government Summary—Office Swapping

	Dutch Federal Government
Where is the NWP occurring	Min. of Transportation & Water Works
What are the swapped locations	Den Haag & Rotterdam
Number of users per location	Den Haag: 30 Rotterdam: 20
Workstations available at each location	Den Haag: 8 WS in several rms. Rotterdam: 4 ws in 2 rms.
Were the users volunteers then selected or just selected	Volunteered
Job Types	n/a
Days/week at other office	1-2
Is it a Pilot Project	Yes
When did this NWP begin	beginning 1/1993
What equipment is available at the other office	Computers and telephones at each workstation, access to fax and copier
What sort of outcome has the NWP had	n/a

Home-Based Teleworking

Home-based teleworking arrangements allow employees to work either full-time or part-time from their homes during normal business hours. Employees are usually connected to the company by some sort of electronic communication (telephone, modem/computer, beeper, etc.). The degree of dependence on the computer or telecommunications can vary widely; people such as telephone sales representatives or airline reservationists may be totally dependent on a computer and modem to work at home, whereas consultants and other professional employees may require nothing more than a regular telephone to perform their jobs from home, though it is rare.

Teleworking arrangements can be formal (company has a public and explicit policy for allowing employees to work at home) or informal (individual arrangement between management and the employee). Usually, formal programs will have specific guidelines for determining which employees can participate and to what extent the company will provide training, equipment, furniture or other direct support for working at home.

For the majority of teleworkers, only a portion of their workweek is spent at home. According to a study conducted by Joanne Pratt Associates in 1993 of over 17,000 individuals who participate in teleworking programs, teleworkers spend, on average, only six to eight hours per week working from home. While some teleworkers do work primarily at home, much of this can be attributed to the particular job type of the teleworker; some job types lend themselves more readily to full-time teleworking, such as data entry jobs.

Organizations vary in the types of equipment and furniture provided to teleworkers. Some companies will provide the employee with their own personal home office, while others will require the employees to furnish their home office independently. Items that are sometimes provided include:

- Furniture (ergonomic seating, desks, lighting, storage).

- Equipment (computer, printer, modem, fax, telephone, answering machine, etc.).

- Rent and utility supplement.

- Additional telephone line(s).

Organizations are implementing these types of programs across the United States for many reasons that include:

- The ability to attract and retain valuable employees by helping them to balance work and family needs and issues.

- The reduction of office space and the associated costs.

- Overall reduction of traffic congestion and air pollution and/or compliance with the Clean Air Act Amendments of 1990 (see Appendix E: Clean Air Act Amendments of 1990 and Appendix F: Regulation XV for more details).

- Broadening their workforce labor pool by including people that would otherwise be unable to participate in work, such as disabled people, older workers, or people not able to commute to the main office.

- Possible increases in worker productivity through teleworking.

- Overall improvement in employee quality of life.

Home-Based Teleworking Profile

Incidence Among Corporations

1991 teleworking data from LINK Resources in New York[31] shows this arrangement as one of the fastest growing work-at-home trends in the United States, replacing even part-time self-employment in terms of participation. Estimates place the number of teleworkers in the Unites States close to 6 million people in 1991, almost 5% of the total U.S. workforce, and with an average annual growth rate of 29% (see Figure 18).[32] In 1993, this figure increased, reaching 7.9 million teleworkers.

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[31]LINK Resources Corporation. 1991 Telecommuting Data. Thomas E. Miller, Vice President, Home Office Research. June: 1991.
[32]Ibid.

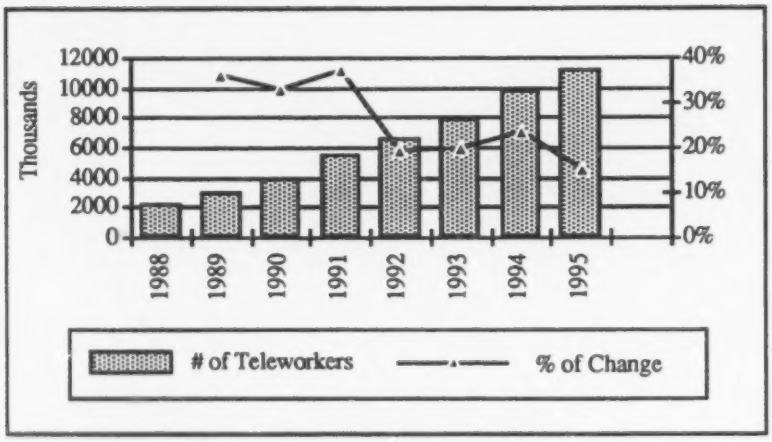

Figure 18: Number of Teleworkers in the United States
Source: LINK Resources Corporation. 1991 Telecommuting Data. Thomas E. Miller, Vice President, Home Office Research. June: 1991.

Large organizations (over 1,000 employees) and very small organizations (less than 10 employees) in the United States are increasing their use of teleworking as a flexible arrangement for their workers in the 1990s. Almost 22% of Fortune 500 companies have teleworking programs for their employees. Organizations are seeing the benefits of "moving information rather than people in order to increase productivity, reduce road travel and save various costs" according to Thomas E. Miller, Vise President of Home Office Research for LINK Resources.

Teleworking in the UK is also increasing in popularity in the 1990s. The Henley Centre for Forecasting estimates that in 1989 there were approximately 100,00 teleworkers formally employed with organizations and 500,000 self-employed teleworkers in the UK. By 1995, the Henley Centre predicts this figure to reach as high as four million people.[33]

Business Types

Although the majority of teleworkers work in services, other businesses are taking advantage of teleworking employees. Financial services,

[33]People for the 90s. Catalogue of New Working Practices. Digital Equipment Corporation, August, 1989: pg. 57.

insurance, and real estate companies account for 9% of the teleworking workforce (see Figure 19).

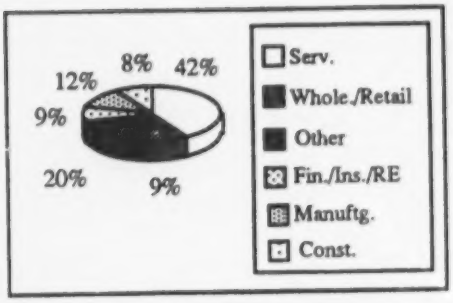

Figure 19: Teleworkers in the U.S.—Business Type 1991
Source: Romei, Lura K. "Telecommuting: A Workstyle Revolution?" Modern Office Technology May 1992: pg. 38.

Job Types

The largest occupational groups to use teleworking as a flexible work arrangement are managerial employees and professionals. Teleworkers in these fields make up 12.6% and 13.3% of the total workforce for these respective fields. Engineers/Scientists and salesworkers also participate heavily in teleworking, comprising 9.6% and 6.7% of the total workforce in these respective fields (see Figure 20).

GTE Telephone Operations in Irving, Texas has put together a summary of their research on what the typical teleworker looks like:

The Teleworker Profile

- Very likely married, within the "Baby Boomer" age category of 35 to 45.
- Well-educated.
- Predominantly white collar professionals.
- Equally likely to be male or female.[34]

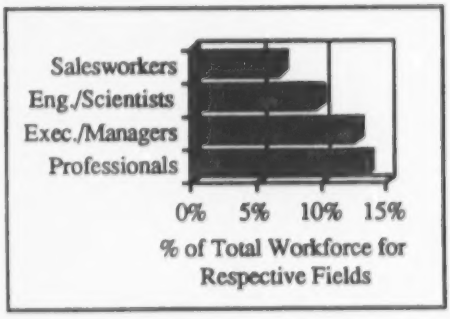

Figure 20: Teleworkers in the United States by Job Type
Source: LINK Resources Corporation. 1991 Telecommuting Data. Home Office Research. June: 1991.

A study conducted by Joanne H. Pratt Associates[35] dispels some of the myths associated with teleworkers:

- Teleworkers do not work at home as an alternative to child care. The majority of teleworkers with small children place them outside of the home either in a nonrelative's home or in day care centers on the days that they work at home.

- Teleworkers do not "slack off" on work at home; on average teleworkers work about the same amount of time as nonteleworkers. Men working at home spend under two minutes more than nonteleworkers away from work on lunch or breaks, while women teleworkers spend one minute less.

- Teleworking does not decrease participants' chances for promotion. Almost 40% of male teleworkers were promoted in 1988 compared to 27.2% of nonteleworking males. This pattern was also true of teleworking females, with 34% of teleworkers

[34]Romei, Lura K. "Telecommuting: A Workstyle Revolution?" *Modern Office Technology*, May 1992: pg. 38
[35]Pratt, Joanne H. Myths and Realities of Working at Home. Joanne H. Pratt Associates, March 1993.

receiving promotions compared to 21.3% for nonteleworkers. To some degree, this trend can be explained by the fact that the majority of teleworkers hold management jobs and were initially allowed to work from home because they had demonstrated their initiative and high performance.

Sponsor Initiatives

Aetna Life and Casualty

Several employees at Aetna's Rochester, New York branch were having difficulties balancing their family and work lives. Two employees offered to take demotions if in exchange they could work at home. Instead of demoting the employees, Aetna and the employees worked out a part-time teleworking program to enable the employees to work a portion of their time at home.

Aetna saw this as an opportunity to not only accommodate these individual employees, but also to eventually expand their labor pool by offering families with elementary school children an alternative work style which would allow them to save on after-school child care and commuting time and expense. They also believed that this program would improve the productivity of the program participants.

Five employees took their own workstations home, where they work four days per week. The only added expense for Aetna was to pay for modems and telephone lines. The five employees alternate the day they will come into the office so that one person is always in the office. Aetna reduced the number of workstations in the office from five to one, which the employees all shared. On the day that the employees are in the office, they meet with their supervisor, do filing and other non-mechanized work.

Dutch Federal Government

The Dutch Federal Government is currently engaged in three separate teleworking projects with the Ministry of Transportation and Water Works, the Ministry of Finance, and the Ministry of the Environment. All of these offices are located in or around Den Haag, where real estate costs are very low. In each case, teleworking was seen as a

means of reducing transportation and traffic congestion and/or increasing employee satisfaction and productivity by making the work more flexible, versus space savings in the central office. In all three teleworking projects, the employees were able to maintain their workstations in the office, unlike the situation with Aetna.

Employees who agreed to participate varied according to their job types. For example, the Ministry of Finance teleworking project involved 34 employees, including staff workers, managers, teachers, consultants, and administration. Employees were given a computer, modem, printer, fax, an e-mail account and second telephone line depending on their job functions. Most of the employees provided their own furniture for their home office, but 20% of the Transportation and Water Works employees asked that the company arrange to purchase used furniture for them. Except for employees of the ministry of Environment, teleworkers were given approximately $30.00 (US) per month supplement to pay for the extra heat and electricity required to work at home.

Employees arranged with management to work 1-2 days a week at home. Teleworkers were asked to fill out a contract stating when they would work at home and what hours they would be available.

IBM, United States

IBM has six offices of various sizes in the state of Indiana. Like many IBM offices, the Indiana offices were faced with financial pressures to reduce costs in any way possible. In an attempt to reduce overall costs without reducing the size of the workforce, a large scale teleworking program was put into place.[36]

A team of approximately twenty people, lead by the Business Operations Manager (handled real estate issues, personnel), the Information Technology Manager (in charge of communication issues), and a Senior Consultant (handled technology issues/requirements) put

[36]Information based on an interview with John Frank, Marsha Cohen, and Roger Battista , the team in charge of Mobile Work Programs in Indiana.

together a package of tools to enable 300 client-oriented employees to work from home. The teleworking program allows employees that spend the majority of their time (70%) with clients to work the remainder of their time at home as well as the office. The primary goal of the project is to reduce the amount of office space necessary to house these employees by reducing the office occupancy rate.

Employees were not given an option in terms of participation in the project. The planning team set down guidelines for who would telework (approved by management). In general, administration and support staff have permanent office space, while the client-oriented employees (marketing and technical) share office space at a 4:1 employee-desk ratio.

As a result of the teleworking program, IBM, Indiana now occupies 50% of the floor space that it did previous to the project.

Teleworkers spend approximately 1/2 to 1 day a week in the office. When in the office, employees have access to shared working spaces, conference rooms, copy/mailroom/print service rooms, and fax machines. Each teleworker has been provided with one file drawer in the office for storage.

The layout of the office was altered to help facilitate teleworkers in the office. All services (i.e., copying, printing) are centrally located, surrounded by shared working spaces.

Employees were given a PS/2 computer, high-speed modem, and a platform of applications for their home offices. IBM also installed additional telephone lines in the teleworkers' homes. Furniture was provided on an as-needed basis, the typical package consisting of a standard desk, chair, and filing cabinet. Employees were offered an equivalent cash settlement if they did not want the equipment package.

The biggest benefit the employees associate with the teleworking project is the flexibility that it affords them in performing and scheduling their work. Employees report that the biggest disadvantage

of teleworking is the lack of socialization. IBM is trying to reduce the lack of socialization by scheduling monthly dinners/outings for the teleworkers.

Table 22: Workscape 21 Sponsor Telework Summary

	Aetna		Dutch Federal Government			IBM
Where is the NWP occurring	Rochester, U.S.	U.S.	Min. of Transportation & Water Works, Den Haag, Netherlands	Min. of Finance, Den Haag Netherlands	Min. of Environment Den Haag Netherlands	Indiana, U.S.
Number of Users	5	100	60 (in 2 directorates with 30 users each)	34	24	300
Drivers/ goals of the program	Satisfy user needs Increase productivity	Retain qual. employees Sat. user needs Increase productivity	Reduce trans. and traffic Increase flexibility and productivity	To increase productivity and efficiency	To increase employee satisfaction by making work more flexible	Reduce overall costs without reducing size of workforce.
User selection process	n/a	Most volunteers	Dir. 1: Volunteered Dir. 2: volunteered and selected	Volunteered and selected	Volunteered and selected	Selected/ drafted
Job Types	Claims Processing	70 Tech./Clerical 30 Sup./Mgt.	All levels in organization	All levels in organization	16 Policy Makers 3 Advisors 5 Support and Others	Client-oriented employees
Days/week at home	4 days/week	n/a	1-2 days/week	1-2 days/week	1-2 days/week	4-4.5
Pilot Project	Yes	No	Yes	Yes	Yes	No
When did this NWP Begin	1991	1990	1991	1992	1991	1993
Furniture or rent/ utilities supplement provided	users took own workstation in the office home	Yes	$30 Utility supplement arranged used furn. for 20%	$30 Utility supplement, no furnishing, (appropriate furnishing were a req. for joining the program)	Some received chairs. Are trying to supply chairs to all users.	Some furniture or equivalent cash settlement.
Outcome	30% productivity increase	86% of users feel more productive	Positive user response	78% of user satisfaction is the same or better	75% of users enjoyed work more	Positive user response
Equipment supplied	PC's, modems adjustable tables, ergonomic chairs, phone line	PC's, modems, printers, fax (or fax/ modems), some phone lines or phone credit cards, copy machines, voice mail, word proc.	PC (or subsidize cost if already own), modem, printer, fax, phone line	PC, inkjet printer, fax, some modems and phone lines (depending on job)	PC, printer, fax, modem, e-mail, and phone line	PS/2 , modem, platform of applications, some furniture
New projects planned	Not currently	n/a	Under consideration	Under consideration	Under consideration	Yes

Sponsor Comparison and Cultural Implications for Home-Based Teleworking

One cultural difference found in our sponsor organizations is the maximum number of days per week that teleworkers work at home. In all three projects in the Netherlands management felt that more than one or two days per week at home would negatively impact the organization. In the US, while the typical pattern is to work one to two days a week at home, we have found projects -of which IBM is one- where staff work almost full time at home or with clients and only spend one day per week in the central office.

Another major difference between the programs we have found in the Netherlands and in the United States is the effect of the programs on the central office. In the Netherlands, where real estate is comparatively inexpensive, none of the telework programs have had any impact on the central office; that is, while working at home the employee retains his/her personally assigned workstation in the workplace. The Ministry of Transportation and Water Works program stipulates that any changes to the central office (i.e., rethinking space allocation and design) will only be considered after the program has been in place for two years. At that point, management will consider options for re-designing the office to incorporate that fact that a portion of the employees are out of the office periodically. Until then, the central office will remain unchanged to allow the users to acclimate to teleworking.

This management/facilities practice contrasts with companies like IBM and AT&T in the United States who have combined aggressive home based telework programs with a reduction in the central office space, achieved in part by introducing the concept of non-territorial offices in which there are more staff than workstations. The telework program itself is viewed by many companies as a means of improving productivity and of reducing what are viewed as unacceptably high space (overhead) costs. The generally large size of American residential homes and the fact that the separation between work and home is not as strict as it is in Japan (see below), coupled with the fact that the home is often empty for much of the day because of the high proportion of dual-income families/quality child care programs in the United States, all help explain why American companies are more

Table 23: Workscape 21 Sponsors—Home-Based Telework

	Home-Based Telework
Aetna Life & Casualty	■
Arthur Andersen	
ASPA/SAMAS Group	■
Chubu Power Co.	□
DuPont	■
Eastman Kodak	■
Ernst & Young	□
General Electric	
IBM	■
Kokuyo Co., Ltd.	□
Osaka Gas	□
Project Office Furniture	◨
Rijksgebouwendienst	■
Steelcase	■
Shimizu Inst. of Tech.	□
Xerox	□

■ Has program
□ Does not have program
◨ Under consideration

involved in implementing formal telework programs than companies in other countries.

Both the American and Dutch situations together contrast even more sharply with the situation in Japan. High population density combined with exorbitantly high costs of real estate make all but the smallest apartment in a central area like Tokyo unaffordable. Japanese culture promotes very traditional roles of men and women; men are expected to leave the home to devote their energies to work, while women are in charge of the family and household. For the husband to return home too early (or to never leave at all in the case of teleworking) is seen as dishonorable. These cultural characteristics create a situation in which neither space nor social values support working at home. It is not surprising, therefore, that none of our Japanese companies reported any formal or informal telework programs. As the number of people entering the labor force decreases, however, Japanese firms may begin looking for ways to keep many of the qualified women who have to leave the workforce for family reasons, and we may see a rise in the number of teleworking programs in this country.

Non-Territorial Offices

Non-territorial offices are offices where employees do not have individually assigned desks, workstations, or offices. This workplace arrangement is similar to the shared assigned office, but instead of several people "owning" a space, employees use whatever space they would like when they come into the office, and no one person is associated with any particular workspace. Employees are able to chose their workspace on a first come, first served basis, or in some cases, organizations will allow employees to reserve a space before they arrive. This latter approach has come to be called "Hoteling" because in its more sophisticated forms it involves using a computerized reservation system to reserve space in the non-territorial offices ahead of time much like a person reserves a room at a hotel.

In a non-territorial office, the users will outnumber the workstations provided. This concept is based on the premise that employees are out of the office the majority of the time, and usually only require office space 30% of the time.

Non-territorial offices can take many forms, from completely open desks to open plan standard workstations surrounded by panels to fully enclosed private offices. What distinguishes the non-territorial office is not its physical form, but that it is not assigned on a long-term basis to any specific individual.

IBM has identified a number of variations that describe different patterns of non-territorial use. These include:

- Group Address: Non-territorial offices that serve only a specific group or department; that is, the people sitting in that area are organizationally interdependent.

- Free Address: Non-territorial offices that serve anyone from the company that needs to work in that location on a particular day; that is, the people sitting in an area are organizationally independent. They are not part of the same group or department. These areas are also called Visitor areas.

- Touch Down: This is a variation within the Group Address in which a smaller workstation/desk is made available for a member of a specific group to use when they are in the office for a very short period of time; e.g., less than a few hours.

Sponsor Initiatives

Arthur Andersen & Co.

In 1990, Arthur Andersen & Co.'s San Francisco office began searching for a solution to their space shortage problem which resulted because of rapid business growth. Their solution involved the implementation of shared offices for their first-fourth year managers, which they call Just-In-Time officing.

Andersen took thirteen partner-sized offices and allocated them for use by sixty managers. Storage is provided in the form of two file drawers and two shelves located in a central vault. Managers call ahead to reserve a room in much the same way that they would a hotel; they call the JIT office reservation clerk, and the clerk makes sure that the manager has an office (stocked with supplies) with the manager's telephone calls transferred to that room by the time the manager arrives. Managers can reserve the room for an hour, a day, a week, or a month.

The concept of JIT officing has also spread to other areas of Andersen. Chicago implemented a JIT office system in 1992 for their managers, with 135 offices originally housing 220 managers. The number of managers using these offices has since grown to 300.

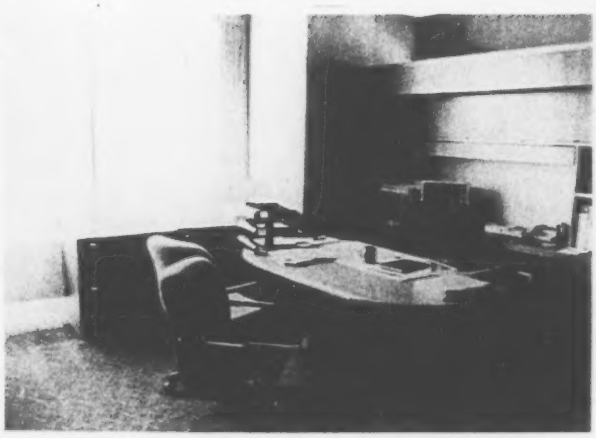

Photo 7: Typical private partner office

Photo 8: Partner office with personalization

Aspa/Samas Group

Aspa, in an attempt to improve worker productivity and flexibility, is in the process of implementing a non-territorial office in Utrecht, Netherlands. Seven or eight employees will be provided with six "workstations," an informal seating area, two team rooms, and a flexible work location policy within the building. Each workstation will be an L-shaped work area with low partitions with enough room for two people to work comfortably (important because all employees are in the office on Monday). Each employee will also have a portable computer and mobile pedestal.

No decisions on telephones have yet been made (currently the receptionist keeps track of the employees) but Aspa is looking for a system that will allow each employee to use the same phone in the office, on the road, and at home.

Ernst & Young, Chicago

After the merger of Ernst & Whinney and Arthur Young in 1989, Ernst & Young was left with three separate Chicago locations. In an attempt to consolidate the three locations on seven floors of the Sears Tower without incurring additional space costs, Ernst & Young turned to non-territorial offices to house its auditing and consulting professionals. This non-territorial office in their headquarters is a form of "hoteling," in which employees use a sophisticated computerized reservation system to reserve an office. Besides keeping their space costs down, Ernst & Young hopes to improve consultants satisfaction and effectiveness by giving them privacy, adequate workspace, and the ability to get telephone calls while they are in the office.

Photo 9: Non-territorial consultant office

500 consultants and auditors are currently "hoteling" at the headquarters. Consultants call in advance to reserve an office through the hotel coordinator. The hotel coordinator makes sure that the hoteler's office is set up, equipped with office supplies, and that telephone calls will be properly directed to the office when the hoteler arrives. The reservation system keeps track automatically of what offices have been used, how often, equipment requested, person using it, length of time, etc. This provides the basis for detailed automatic

record keeping, and also a chargeback system for use of space, utilities, etc.

Previously, the employees were using shared assigned office space, with 2-4 people sharing an office. This approach, in which one does not have an assigned place, but has the use of a private office, was a means of dealing with the need for increased privacy without the considerable financial cost of providing every consultant with their own private office.

From a design viewpoint (i.e., layout, furniture, etc.), very little changed in the office. The innovation here is in the computerized reservation system; offices are thought of and reserved in the same manner as a hotel room, and the employee is seen as a paying guest. In addition, employees desire for greater privacy in order to work more effectively has been met without any additional space costs. In effect, the offices have been upgraded (from shared to private) for the individual user without any physical design change.

IBM UK

IBM in the United Kingdom has been implementing a form of shared offices for almost four years. Their non-territorial office, which they refer to as "SMART," involves classifying workers as mobile or static based on the amount of time their particular job type typically spends out the office. Workers who spend over 70% of their time out of the office are classified as mobile. Mobile workers are given a laptop and a printer as a standard technology package in exchange for a private workstation. When in the office, the mobile workers can chose from a variety of workspaces, including the standard workstation, a touchdown workstation (smaller than the standard workstation designed for short-term use), or an office.

Photo 10: Visitor reception/registration area

IBM currently has over 1200 employees participating in the SMART program. IBM's goal in implementing such a program was to reduce overall facility costs while also trying to increase employee productivity. It is one of the first examples of a strategic corporate initiative to implement non-territorial offices, and is now being used in over eight different UK offices. The largest installation of SMART was in Bedfont Lakes in Middlesex just outside of London. Here, over 1,000 employees are being housed in a building that would normally only accommodate 600.

Photo 11: Typical SMART workstations

Photo 12: "Touchdown" workstations for short-term work

The installation at Bedfont Lakes is one of the more interesting installations of SMART in the UK in that the building was designed with the SMART concept in mind. Mobile workers and static workers are housed in the same department, but the workstations are separate to help distinguish "non-owned" space from assigned space. As mentioned earlier, a variety of spaces are included in the design; in addition to the standard and touchdown workstations and workrooms/ offices, there are also plenty of conference rooms and common areas for employees to use.

IBM, United States

IBM in the United States has recently embarked on a project to help offices across the United States implement different forms of non-territorial offices. A team of IBM employees presents a list of different types of alternative office arrangements to employees, ranging from free-address to shared assigned offices. The different departments can then chose the form of office that they feel like would be most appropriate for them. To date, over twenty IBM sites in the United States have agreed to implement an alternative office arrangement. IBM currently has offices in Norfolk, Virginia; Denver, Colorado; Jacksonville, Florida; and Lexington, Kentucky, that have implemented a form of non-territorial office.

The IBM United States and IBM United Kingdom approaches differ in that in the United Kingdom, employees are presented with a single non-territorial office solution, whereas in the United States, employees are able to chose from a variety of alternatives.

Shimizu Institute of Technology

Shimizu Institute of Technology in Japan installed a non-territorial office in their planning division located in Tokyo back in 1987. Unlike in many of the other implementations of non-territorial offices that we have encountered, space cost (or reduction thereof) was not a consideration in the project. The real estate prices in Tokyo are some of the highest in the world, so workers are already using as little space as possible. The goals behind this non-territorial office were to improve the quality of the office environment, to test new technology;

namely, cordless telephones, and to develop a space planning approach that permits small changes in staff size without physically changing the office accommodations.

Twenty eight desk areas are available for use by the 11 researchers and 4 support staff. These desks are available in two configurations: semi-enclosed (surrounded in pairs by low panels) for more concentrative work, and open either at six desk tables or a large table with semicircular ends. Each employee has a rolling pedestal, a cordless telephone, and a portable computer. There is also a large amount of shared filing space available for general use.

Unlike the typical non-territorial offices where employees outnumber the available workstations, at Shimizu there are more desks than people. Because the initial driver for the project did not involve reducing space but rather improving the office environment, Shimizu was able to provide employees with a variety of workstations from which to choose; the employees now have open desks, private workstations, meeting spaces, and group areas. If one of the goals had been to reduce space, Shimizu may have deemed the extra space as unnecessary, and may not have been able to improve the office environment as they did.

Photo 13: Private free address workstation

Photos 14: Free address open workstations

Table 24: Workscape 21 Sponsor Non-Territorial Offices Summary

	Aetna	Andersen	Aspa	Ernst & Young	IBM UK	IBM USA	Project	Shimizu
Where the N-T office occurred	Portmouth, NH, U.S.	San Francisco and Chicago, U.S.	Utrecht, Netherlands	Chicago, U.S.	Throughout England, primarily London area	Throughout U.S.	Varies across the UK and Europe	Tokyo, Japan
Number of Users	26	350+	7-8	500	1200+	n/a	150	15
What are the drivers/ goals of the program	Save space costs	More efficient use of space	Improve producti-vity & flexibility	n/a	Reduce facility costs Increase prod.	Space reduction	Reduce occupancy rates. Mgmt. desire to have people in the office	Improve quality of work environmt. Develop space planning approach
Number of Workstations	1 desk/2.5-3 users	150 offices	6	5 users/ws	n/a	n/a	50 approx.	28
Size of typical footprint	42 sq ft	n/a	n/a	mgrs: 100 sf offices, professiona l: 64 sf w.s.	n/a	n/a	60 sq ft ws.	18.5 sq ft/desk (but most people use 2 desks)
Job Types	Claim Reps	Managers	Consults, Researches and Other	Consulting, IT, Performnce Improvmt, & Audit	Marketing, Consulting , Sales	Various	Sales, Marketing and related jobs	Research
When the N-T office began	4th qtr '92	1990	Starting 2nd Qtr. '93	June 1992	1990	1992	1986	March 1987
Is it a Pilot	Yes	No	No	No	No	Yes	No	No
Outcome	n/a yet	n/a	n/a	n/a	Reduced space costs, moderately improved user satisfaction	n/a	Excellent, no problems	Positive
Are new projects planned	Probably, but no info. yet	Yes	n/a	Yes	Yes	Yes	Yes, for Senior Managers	No

Sponsor Comparison and Cultural Implications for Non-Territorial Offices

Non-territorial offices are indisputably the most prevalent form of flexible working locations among our sponsor organizations. Table 24 compares the key features of the non-territorial offices. The size of the offices varies from the 8 and 15 person offices at ASPA and Shimizu to the recent installation of a new IBM facility outside London with 500 users. The types of jobs involved range from Aetna's claims reps and sales, and marketing and consulting at IBM to the researchers at Shimizu and management consultants at Andersen. The common characteristic of these different jobs remains that they require the individual to be out of the office from 50-70% of the time, with clients, in meetings, and in travel to projects. IBM is considering at the moment introducing non-territorial offices to its research groups, which would be a significant shift in the types of job function for which non-territorial offices are generally considered to be appropriate.

Table 25: Workscape 21 Sponsors—Non-Territorial

	Non-Territ. Offices
Aetna Life & Casualty	■
Arthur Andersen	■
ASPA/SAMAS Group	■
Chubu Power Co.	□
DuPont	□
Eastman Kodak	■
Ernst & Young	■
General Electric	◨
IBM	■
Kokuyo Co., Ltd.	□
Osaka Gas	□
Project Office Furniture	□
Rijksgebouwendienst	□
Steelcase	■
Shimizu Inst. of Tech.	■
Xerox	□

■ Has program
□ Does not have program
◨ Under consideration

The IWSP data suggests there are fewer differences attributable to national culture than one might have expected. Non-territorial offices exist, for example, in Europe (Netherlands, Sweden, Finland), in the UK (England, Scotland), in the United States and in Canada, and in Japan. To the extent that cultural differences do play a part, they seem to be stronger within Europe than between Europe and the United States or even Japan. For example, while they may exist, we do not know of non-territorial offices in France, Italy, Spain or Germany.

The form of the office seems primarily related to whatever the previous form of office accommodation was in that particular firm. Thus, the Japanese non-territorial office resembles very much the typical Japanese office, with individual desks organized in facing rows. The IBM approach looks very much like their standard open plan workstations. Andersen in San Francisco and Ernst and Young in Chicago simply changed how they were using their existing cellular partner offices.

Cost is a common driver, again across national contexts. In Japan, the goal was to increase the quality of the work environment without adding costs, as it was for Ernst and Young in Chicago. The data

strongly suggests that as pressures to reduce costs rise, acceptability of non-territorial offices increases. Relatively poor performance for IBM, for example, has created conditions in which employees are more willing to consider non-territorial offices than they might be were business better. In firms with partnership forms of ownership (rather than shareholders), partners can easily appreciate the contribution to their own earnings from reducing overhead facility costs. Whether the seemingly greater reluctance to adopt non-territorial offices in Western Europe stems from cultural values (including different degrees to which change of any kind is accepted) or from the fact that space in these countries has not been as expensive is an open question. It is at least plausible to assume that countries like France, Italy, Spain and Germany, in contrast to the Scandinavian countries or the Netherlands, for example, may be more tradition-bound. The large presence in the UK, from this perspective, would have more to do with IBM being an American company than to some characteristic of the British, who are renowned for preserving cherished traditions. In the UK it seems likely that the combination of a poor economy, high space costs (especially in the London area), extremely stiff competition, and an organizational culture heavily influenced by its American roots would account for the apparent anomaly in the number of non-territorial offices.

It is equally likely, however, that the differences are due to the presence (or absence) of individual managers who are personally committed to experimentation of all kinds, of which the non-territorial office is just one kind. At the very least, it is clear that the role of national culture is uncertain, but that the role of cost and of management commitment is central to whether or not non-territorial offices are adopted.

If cost is the main driver, then one would expect that as the economy and a specific company's performance improves, there would be increasing internal pressure from staff and management to return to conventional assigned offices. The possibility that some hybrid form would evolve— in effect a kind of team office in which there are assigned desks or workstations organized to promote communication and planned and designed as part of a total workplace system—is worth

monitoring over time. The fact that non-territorial offices seem to require continuous nurturing (e.g., restating goals, fine-tuning, enforcing use policies) to keep them from gradually becoming territorial suggests that for the long run these offices may not be viable unless they receive constant attention. In this sense, the best of these might be thought of like a vintage Jaguar, a wonderful high performance car that gives enormous pleasure when running, but which requires constant attention to keep it in good working order.

Telework Centers

For the purpose of this study, telework centers are defined as offices intended for use by employees from the same or different organizations as an "office away from the office;" that is, an office that is near the employee's residence. It is not simply a branch office, which may draw on employees living a considerable distance from it, and usually houses only one organization.

Telework centers have been developed in North America primarily in response to government pressures to reduce traffic congestion, air pollution and number of commutes, to take advantage of surplus space, and to demonstrate new telecommunication products and services. In Japan, telework centers provide a show place for new technology as well as to reduce unpleasant commuting time.

Telework centers are appearing in a variety of settings, from mid-rise office buildings in business parks, to strip malls, to residential settings, all of which are out of center-city locations. Individual work areas within the offices vary from private enclosed offices to shared enclosed offices to open plan workstations. They may be occupied by a single company or by several companies. Telework centers can be run by corporations for their own employees only, for their own employees with some space rented to others, or by private or public industry exclusively. Employees may come to the telework center every day, whenever they choose, or on a day assigned by their company.

Sponsor Comparison and Cultural Implications for Telework Centers

Currently, none of our sponsor organizations are using telework centers. The IWSP, however, has done some extensive research on telework centers used by other organizations, so cultural implications and national trends will be drawn on this research.[37]

[37] See Becker, Rappaport, Quinn, and Sims, *Telework Centers: Their role in integrated workplace strategies and their impact on performance and communication.* Cornell University International Workplace Studies Program, Ithaca, NY, 1993.

The IWSP has found examples of telework centers in many countries. The most striking cultural differences in the telework centers appear to be between Japan and North America. The North American examples have been driven almost exclusively by government concern for reducing traffic congestion and air pollution. Most of the examples began as formal pilot studies involving a consortia of government and the private sector. In contrast, the Japanese pilot studies have been implemented by individual companies, like NTT, who see these offices as a kind of physical advertisement; that is, they are a showplace for the latest telecommunications technology these companies have available for sale. For that reason, the Japanese telework centers often have considerably more (and more advanced) telecommunications technology in them: i.e., video-telephones, videoconferencing, large screen fax boards, live video connection to a central office). In some cases the Japanese office has been located in residential areas to help attract staff, especially women, who may be unable or unwilling to commute long distances.

Preliminary data from Japanese telework centers suggests that while Japanese workers appreciate the greater privacy and more spacious and pleasant offices, they also miss the hustle and bustle of the typical Japanese office. For North American workers this seems to be less of an issue. In both cases, however, there is some concern that by being located outside the central office, away from office gossip and politics and simple contact with coworkers and managers, there is a risk of becoming marginalized.

Benefits of Flexible Work Locations

Some of the benefits organizations associate with flexible work locations include:

- More flexibility and control provided to the employees to chose when, how and where they will work.

- Traffic/commuting considerations: freedom from the hassles associated with commuting, reduced commuting times, fewer commutes.

- Ability of employees to work in area that best suits the task at hand.
- Ability of employees to better balance work and home life.
- Ability of employees to be more productive.
- Reduced space costs in some instances.
- Improved communications under some alternatives.
- Increased employee satisfaction.
- Increased labor pool—can recruit people that may not be able to work in a traditional environment, such as single-parent families, handicapped, etc.

"Barriers" to Flexible Work Locations

Potential barriers—which in some cases may be based on untested or false assumptions—that organizations may encounter when trying to implement flexible work locations include:

- Decreased communication with employees who work in locations other than the central office.
- Decreased ability to work as a team.
- Decreased productivity in the central office as a result of people being out of the office.
- Dissatisfaction with having to give up office space.
- Insurance questions for non-office work locations.

Facility/Facility Management Implications for Flexible Work Locations

Some of the Facility/Facility Management implications for implementing flexible location alternatives include:

- The workplace now goes beyond the boundaries of the office; facility managers may become responsible for many "sites." This new responsibility will require new information systems solutions

to track, communicate with, and monitor sites. It also will require facility managers to provide servicing of equipment and furniture in these new sites. Finally, it can result in changes in the way that facility managers purchase; instead of purchasing bulk orders of similar equipment, furniture, etc., it may require facility managers to purchase individual components to meet individual needs.

- Facility managers will have to address specific security issues and determine what information people working outside of the central office will have access to.

- Facility managers will have to acquire equipment, technology, and furniture that will best facilitate employees' working patterns.

Conclusion

The objectives of the New Working Practices study were to identify both the range and extent of innovative workplace practices currently in place among member organizations of the Cornell University Workscape 21 research consortium. We also wanted to learn whether the kinds of innovations adopted, and the factors driving them, were associated with particular industries, different size organizations, or different national contexts. Finally, we wanted to consider the implications of these alternative work practices on the workplace itself and on how it is planned, designed, and managed. The following sections summarize our findings with respect to these questions.

Type and Extent of Workplace Innovation

- An extremely wide range of new working practices are currently in place across our sponsor organizations. Many of these practices have only been implemented within the past year or two.

- While the number of practices represented is very broad, the number of employees involved in these practices varies enormously. In most cases, these numbers are quite small, especially when considered in relation to the size of these companies, many of which are among the largest in the world.

Innovation Drivers

- Different factors have driven different kinds of new working practices. While to some extent almost every new working practice had elements of one or more of the drivers stimulating its development—cost reduction, meeting more stringent government environmental regulations, responding to employees' desire for more time and space freedom, and increasing performance—some of the new ways of working appeared to be influenced by some drivers more than by others.

- Flexible scheduling, for example, has been driven by employee pressures to provide more flexibility in when they work; flexible staffing has been driven more by organizational concerns to increase their ability to reduce or expand their workforce quickly. Several of the flexible workplace programs (i.e., home based telework and telework centers) have been driven by pressures from

increased government regulation intended to reduce traffic congestion and air pollution, while approaches like non-territorial offices have been driven by the desire to reduce expense costs and, in some cases, to improve teamwork and individual productivity.

Effects of Job Function, Type of Industry, Organizational Size and National Context

- Because all of the member organizations in the *Workscape 21* project are large, there was no opportunity to examine the nature and extent of workplace innovations as a function of the size of the organization. Nor did the differences we found appear to be associated with particular industries. They did, however, seem to be affected in some cases by national contexts.

  The Japanese companies, for example, appeared to have fewer examples of flexible work scheduling and staffing than American, English, and Western European firms. Teleworking was also not represented among any of our Japanese companies, while work environments with a strong residential feel to them were only found in Scandinavia. On the other hand, non-territorial offices were found in the UK and the United States, as well as Japan and Europe. The effect of national context on non-territorial workplace solutions appeared to be more a matter of form than of whether or not it occurred at all.

- With respect to flexible workplaces, the non-territorial offices were associated primarily with job functions which require people to be out of the office on a regular basis: field sales, customer service, project management, consulting. However, IBM's consideration of non-territorial offices for R&D teams would begin to expand the range of job functions considered appropriate for this type of office arrangement.

- Home-based telework has also been viewed as appropriate for a subset of workers with particular characteristics: highly motivated, independent, at higher levels of the organization. The Dutch government experience, in which a range of job functions, including routine administrative work, participated in home-based telework suggests, pending the outcome of their pilot projects, that a wider range of staff may benefit from this type of arrangement.

Facility, Real Estate and FM Implications

- Flexible workplace practices, to be successful, require the expertise and participation of many corporate functions, including human resources, management of information systems, real estate and facilities management, finance, purchasing, and telecommunications. To achieve the collaboration needed to integrate the concerns and expertise of these different disciplines new alliances will need to be formed that cut across discipline and departmental boundaries.

- The number of employees involved in the range of alternative workplace practices we have examined is small, though growing, when calculated as a percent of the total workforce. For these kinds of alternative workplace practices to be more widely adopted there is a need to demonstrate the organizational benefits of these new ways of working that go beyond demonstrating either that just employees like the practice, or that the practice will substantially reduce operating and overhead costs. Both may be true, but organizations must examine the full range of outcomes that will enable them to better meet their fundamental business objectives.

  These outcomes are likely to include the ways in which these workplace practices contribute to attracting and retaining the best quality staff; to increasing the organizations ability to shift its workplace to new locations as markets and other conditions change; and to enhancing communication, collaboration, and teamwork.

- Flexible work locations are likely to change the way furniture and equipment purchasing will be done. For example, home-based telework and telework centers require furniture and equipment, but the number required in any specific site may be one or just a few. Therefore, new purchasing and delivery and maintenance approaches to the provision of furniture and equipment will need to be developed. National contracts are likely to become even more important, since the volume at any one site may be small, but the number over all the sites may be large. Service is likely to take on more of the character of a home appliance service system, with service representatives making "house calls" over a wide geographic area.

- Related to the above point, facility managers may become responsible for many thousands of "sites," some of them with only one or a few employees. This will generate the need for new information systems to track and monitor these sites (including homes); and to service the equipment and furniture within them. The kind of preventive maintenance systems now in place in some large organizations which automatically monitor use and wear patterns will need to be developed for small sites, again in the case of the home teleworker, sites of one. Information on use patterns will also need to be automatically collected, not to monitor performance, but to assess intensity of use as part of a strategic effort to effectively manage all the work locations employees use.

- Fundamental rethinking about security issues and access to sensitive information is needed. This includes the need to rethink what must be secure (and why) as well as the best ways to provide the necessary security.

- The relationship between standard practice and customized provision need to be considered. How can the demands for increasing diversity, stemming not only from differences in preferred work style but also from differences in gender, age, and ethnicity be supported in a cost-effective manner? Organizations are going to need to develop an array of workplace options and then use information systems to easily manage the resulting complexity.

- Implications from job sharing and other forms of flexible scheduling suggest that the provision of a permanent space for a worker may come under increasing pressure for change. Understanding of what aspects of the workplace must be "owned" by the individual (i.e., assigned to a specific individual for their exclusive use) and what can be shared is important not just for non-territorial office workers, but for a much wider range of people who might participate in flexible staffing or scheduling arrangements.

- Facility managers and organizations as a whole need to understand that flexible scheduling, staffing, and work locations must be viewed as an integrated workplace system in order to realize the maximum benefits. One implication of more small sites, with

sites designed to accommodate more team and collaborative work, is that both the amount and type of real estate required will substantially shift over the next decade. Managing the real estate portfolio is likely to include managing workplaces as diverse as telework centers, home offices, and small team-oriented headquarters buildings, along with access to alternative work settings that have never been considered part of the real estate responsibility: places like airline clubs, resort offices, specially-designed hotel rooms and meeting space. While the overall amount of space required is likely to continue to shrink, both the number of sites managed and their diversity is likely to increase, in many cases dramatically.

Benchmarking As An Element of an Integrated Workplace Strategy

Our data is necessarily limited by the number of organizations we surveyed. Our limited sample, however, generally reflects what the available literature indicates are the nature and extent of alternative workplace practices. What was surprising to us was that virtually none of the organizations we surveyed had the kind of information we were seeking in readily accessible form, or in several cases in any form at all. It is safe to say, we think, that none of the organizations in our study really know how many employees are teleworking, for example, or for exactly what number of days, or in what pattern of at-home and in-office movement. What this suggests to us is that most organizations do not yet understand the value of such information for developing an *Integrated Workplace Strategy*. They have not yet seen the connection between flexible staffing and flexible location decisions, or between knowing how many people are teleworking and what this means for their overall real estate requirements. For the most part, alternative workplace practices currently are negotiated and implemented as *private treaties* between supervisor and employees. This makes a lot of sense at the employee level, but the absence of information about the extent and nature of these practices means that organizations are making decisions about how they allocate their scarce resources of people, time, and money, all of which ultimately directly affect their ability to meet their fundamental business objectives , in an information vacuum.

In addition to the basic information about different workplace practices this report summarizes, perhaps the most important role it can play is to help stimulate organizations to begin to identify new sources of information about the workplace that they need to collect in order to make effective, strategic decisions about how they purchase, allocate, and use their resources.

Appendix A:
IWSP Sponsor Descriptions

IWSP Sponsor Descriptions[38]

Sixteen companies from four different countries currently sponsor the research conducted by the International Workplace Studies Program. By country, these companies are:

United States

Aetna Life and Casualty

Aetna Life and Casualty is one of the world's leading providers of insurance (life, health, and property/casualty) and financial services to corporations, public and private institutions, and individuals. Founded in 1967, Aetna now has 64,700 people in it's organization worldwide. Aetna Life and Casualty has over 200 U.S branch and marketing offices, as well as offices in the Pacific Basin, South America, Canada, and Europe.

Arthur Andersen & Co. SC

Arthur Andersen & Co. SC is the fourth largest accounting firm in the world and number one in the U.S. Arthur Andersen & Co. SC consists of two business units; Arthur Andersen provides audit, tax and business advisory services, while Andersen Consulting provides information technology consulting services worldwide. Andersen Consulting is one of the largest management consulting service organizations in the world. Andersen employs approximately 62,000 people in over 300 offices in 67 countries across the world.

Eastman Kodak Company

Eastman Kodak Company, a public organization founded in 1880, is primarily involved in the manufacturing of photographic equipment and products. It currently employees 134,450 people in its organization worldwide.

E.I. DuPont & Co.

E.I. DuPont de Nemours and Company was founded in 1802 to manufacture explosive powder. Today, DuPont is one of the largest and most diversified industrial corporations in the world, manufacturing petroleum products, plastics, and chemicals. With over 130,000 employees worldwide, DuPont operates in forty countries across six continents.

General Electric Company

General Electric is the sixth largest company in the United States, with sales of over $62 billion in 1992. GE is a very diversified, with businesses ranging from financial services (GE Capital Services) to aircraft engines to broadcasting to plastics. Founded in 1903, GE now employees over 298,000 people in 26 countries worldwide.

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[38]Company profiles obtained through organizational pamphlets as well as from Hoover's Handbook of American Business, 1993, The Reference Press, Inc., Austin, TX.

IBM

Founded in 1911, IBM is the largest computer maker in the world. IBM is organized into nine business units: Application Business systems, Application Solutions, Enterprise Systems, Networking Systems, Personal Systems, Programming Systems, Pennant Systems, AdStar, and Technology Products. IBM houses more than 320,000 and operates worldwide.

Steelcase, Inc.

Steelcase, Inc. is a worldwide family of companies with more than 21,000 employees dedicated to effective office environments. The companies manufacture metal and wood office furniture, as well as provide programs and services to architectural and design firms, institutions, and corporations in nearly 70 countries.

Xerox Corporation

Xerox is a multinational company in the document processing and financial services markets. Xerox has offices in over 70 countries and markets their products in more than 130 countries. Xerox was founded in 1906, and now employees approximately 110,000 people.

Japan

Chubu Electric Power Co., Inc.

Chubu Electric Power Co., Inc., headquartered in Nagoya, Japan, was founded in 1951 when the Japanese government reorganized public power utilities into nine separate companies. Today, it ranks third in Japan in terms of electricity generating capacity, kilowatt-hour sales, revenues, and total assets. Chubu currently employees 20,412 people.

Kokuyo Co., Ltd.

Kokuyo Co., Ltd., headquartered in Osaka, Japan, is one of Japan's top furniture, paper office products, and office equipment manufacturers. Established in 1905 as a manufacturer of binders for Japanese-style ledgers, Kokuyo now has over 2,400 employees, with branch offices in Osaka, Tokyo, Sendai, Nagoya, and Kyushu.

Osaka Gas Co., Ltd.

Osaka Gas Co., Ltd. sells gas in urban areas in Japan. The scope of the organization's business includes importing liquefied gas, vaporizing, distributing, and direct sales to customers. Approximately 10,600 employees work for Osaka Gas in approximately 40 buildings.

Shimizu Institute of Technology

The Shimizu Corporation, of which the Shimizu Institute of Technology is a division, was founded in 1804 in Japan, and is one of the largest construction companies in Japan. Shimizu employees approximately 16,000 employees throughout Japan.

The Institute of Technology is involved in a range of general research activities, which form the core of Shimizu Corporation's construction technology-related research program. Research focuses on: construction technology, structural

technology, underground technology, environmental technology, facility technology, planning technology and advanced technology.

United Kingdom

Ernst & Young

Ernst & Young, with 670 offices in 109 countries, is the second largest professional services firm in the world, and one of the top three firms in 50 countries. Ernst & Young is the product of the 1989 merger of Ernst & Whinney and Arthur Young. Ernst & Young employs over 60,000 people worldwide, with almost half of those housed in the United States and the UK.

Project Office Furniture

Project Office Furniture is the largest British-owned office furniture maker, and, with their sister company Atal in France, is one of the major European players. They are represented throughout the Middle east and in the USA, where they have undertaken some major installations in the past four years.

Netherlands

Rijksgebouwendienst: Dutch Federal Government Buildings Agency

The Rijksgebouwendienst ensures that the Highest Councils of State, the Ministries, and other Dutch government agencies are efficiently housed. This responsibility amounts to providing office space to over 160,000 people. The Rijksgebouwendienst also serves as the cabinet's planning office and is responsible for developing and implementing government buildings policy. In addition, it is responsible for integrating this with other aspects of government policy, such as environmental management, urban renewal, conservation of monuments, physical planning, architecture, and working conditions. The Rijksgebouwendienst hires approximately 1,000 people.

Samas Group/Aspa

The Samas Group/Aspa began in 1923 as a stationery shop in the Netherlands. Over the years, the scope of operation for Aspa broadened to include automation and international expansion of office furnishing activities. In 1977, Aspa's name was changed to Samas Group, although the original subsidiary still trades as Aspa.

The Samas Group/Aspa is most active in the Western Europe office market, and employees approximately 1,600 employees.

Appendix B:
Literature Search Methodology

Literature Search Methodology

To supplement the information from the sponsors, the IWSP research team conducted an extensive literature search on the flexible practices for each of the sponsor countries: the United States, Japan, the Netherlands, and the United Kingdom. Facts from each of the countries were gathered, including: the status of the labor force over time, government regulations that could influence the availability of flexible work practices, the work culture in each of the countries, and existence/usage rates of flexible programs.

The literature search was a multi-faceted process that included:

- a computer search
- library searches
- contact with government agencies
- tracking down experts/expert materials on the flexible work practices

The Computer Search

Information on publications related to flexible work practices was obtained primarily through an extensive computer search. A computer search allows access to a huge amount of information through a variety of different databases, takes a minimal amount of time to search for relevant information when compared to physically searching for the information in a library, and enables the researcher to quickly extract all pertinent materials.

The databases that were utilized for the literature search will be outlined in the following sections. This list is by no means exhaustive, but includes those databases that were most helpful in conducting the literature search.

ABI/Inform

ABI/inform is an international business and management database that contains citations and abstracts of articles in over 800 publications. In general, the information covers management techniques and trends, business trends, and developments. ABI/Inform can also be used with ProQuest, a database of actual articles. For example, if an abstract was found on ABI/Inform in *Business Today* magazine on non-territorial offices and the full article was desired, it is possible that ProQuest has a copy of this article on CD. It is then possible to read (or print) the article on screen, without having to search the library for the magazine.

DIALOG's 150 Databases

DIALOG's 150 Databases is a collection of databases that is offered by a company called DIALOG Information Services. The databases cover a multitude of topics, from agriculture to medicine. In terms of business information, three categories were most helpful: DIALOG Business Connection, Business Information, and Company Information. Each category has a number of databases that can be searched. The DIALOG Business Connection and Company Information categories provide background information on many international companies, while the Business information category provides information on business topics.

The user can select different areas of interest in the Business Information category, such as Management and Labor, Regulations and Standards, and Business News. These areas then provide access to sources such as Harvard Business Review, BNA Daily News, and Management Contents. In some cases the user has access to articles in their entirety, while in other cases the user has access to abstracts only.

America OnLine

America OnLine is a relatively new company that provides services similar to that of CompuServe. The information available on this system is not as exhaustive as CompuServe, but it is fairly simple to navigate through the system. Information can be obtained on individual companies, as well as on business topics. One advantage to this system is that it allows you to search a variety of daily publications by subject.

Library Searches

The computer search alone does not provide all of the information available on a given topic. Another source of information is to search different libraries. Cornell University has an Online service that makes this task relatively simple to perform. Again, the system can be searched according to subject or author, and the location/availability of publications is also disclosed.

Certain indexes that were particularly helpful include: *Reader's Guide to Periodical Literature*, *The Monthly Catalog of U.S. Government Publications*, and the *New York Times Index*.

Contact with Government Agencies

Government agencies can provide a wealth of information on a variety of topics. For this report, the Department of Labor and the departments under this category were very helpful, as was the U.S. Department of Commerce. Particular agencies contacted were: Bureau of Labor Statistics, International Trade Administration, and Bureau of National Affairs.

Tracking Down Experts/Expert Materials on Flexible Work Practices

Often in the periodical literature, reference was made to a person or an organization who specializes in certain areas, such as teleworking or work/family issues. The original report/study/survey conducted by this person or organization is many times very difficult to find in library resources. It then became necessary to track down these people or organizations to obtain the relevant information.

Appendix C:
Flexible Scheduling and Staffing Participation Rates

	Flexible Staffing Participation		
	Temporary Agency Hires	Indepedent Contractor	Internal Temp. Pools
Aetna Life & Casualty	•	1200	
Arthur Andersen	•	•	•
ASPA/SAMAS Group	•	•	•
Chubu Power Co.	1893	•	1999
DuPont	715	2000	35
Eastman Kodak	•	•	•
Ernst & Young	•	•	•
General Electric	•	•	•
IBM	•	•	•
Kokuyo Co., Ltd.	80	60	•
Osaka Gas	•	•	•
Project Office Furniture	•	•	•
Rijksgebouwendienst	•	•	•
Steelcase	•	•	•
Shimizu Inst. of Tech.	96	•	•
Xerox	•	•	•

	Flexible Work Scheduling Participation			
	Flextime	Job Sharing	Compressed Workweek	Regular Part Time
Aetna Life & Casualty	•	120	305	1,150
Arthur Andersen	•	•	•	400
ASPA/SAMAS Group	•	•	•	•
Chubu Power Co.	183	•	•	•
DuPont	14,000	100	•	2,000
Eastman Kodak	•	500	•	1,200-1,500
Ernst & Young	•	•	•	•
General Electric	•	•	•	•
IBM	•	•	•	•
Kokuyo Co., Ltd.	2,200	•	•	•
Osaka Gas	•	•	•	•
Project Office Furniture	•	•	•	•
Rijksgebouwendienst	•	•	•	•
Steelcase	•	98	•	44
Shimizu Inst. of Tech.	•	•	•	•
Xerox	•	•	•	252

Appendix D:
EC Directives on Work Times

EC Directives on Work Times

What is the Proposal?

The EC has drafted a proposal regarding working hours to protect the health and safety of European Community employees. While the intention is good, these proposals could end up limiting organizations in their ability and willingness to offer flexible programs to employees.

The proposal sets minimum daily and weekly rest periods and also sets standards for night and shift work. The proposal calls for a minimum rest period of 12 hours per 24-hour period and at least one rest day in seven (within a 14-day reference period). Night work is limited to 8 hours without overtime. While the two week reference period does afford organizations some flexibility in their scheduling, it places restrictions on the employee's ability to perform work at their convenience. In all likelihood, organizations and employees desiring flexible schedules will circumvent these directives by establishing informal programs between supervisor and employee. An informal arrangement does allow the employee to work when he/she is most productive, but it makes it very difficult for organizations to implement these programs as part of a strategic workplace initiative; without the knowledge of the number of people involved in flexible programs, organizations cannot assess the total impact of the programs on the workplace.

Other proposals by the EC Commission that will have an impact on flexible programs include health and safety standards for equipment and furniture used by the employees for work purposes. Employers must provide "ergonomically correct" furniture and meet certain standards regarding visual display units, among other health and safety proposals. Because the organization does not have direct control over remote locations such as individual homes, it is difficult for organizations to ensure that all employee work environments are meeting the minimum requirements. Some companies have established "home inspections" to make sure that home offices are set up correctly, but again, this represents an inconvenience to both employee and organization, and can be a barrier to establishing flexible work programs.

For more information on EC Directives and their impact on U.S. organizations contact:

U.S. Department of Commerce
International Trade Administration
Washington, D.C. 20230

Appendix E:
1990 Clean Air Act Amendments

Clean Air Act Amendments of 1990

What is it?

The Clean Air Act Amendments of 1990 was designed to attack air pollution problems in the United States. Among other things, the Clean Air Act requires most cities to meet certain air quality standards with regards to carbon monoxide and ozone pollution by the end of the decade.

Geographical areas across the nation are classified by the Environmental Protection Agency according to the degree of ozone levels. Areas can be designated as "severe" or "serious," "moderate," or "marginal" depending on the extent of the pollution problems for that particular area. Depending on an area's classification, the local authorities then have a set period of time by which they must have made serious efforts to reduce ozone levels. The more serious areas are given a broader time band in which they must comply.

The law requires specific proposals for transportation control measures (TCMs) to be included in state implementation plans. These TCMs must be from the specific list provided in the law, which include such programs as :

- trip reduction ordinances
- employer-based transportation management plans
- high occupancy vehicle lanes.[39]

Compliance with the Clean Air Act Amendments of 1990

In general, the trip reduction ordinances affect companies with 100 or more employees. These companies will have to reduce the number of employees driving alone to work during peak hours. These companies must attempt to increase the number of passengers in cars traveling to work during peak hours by a certain amount, for example 25%. Companies not complying with these ordinances are subject to penalty fines.

Affected companies must develop trip reduction plans by November 15, 1994. These plans must be implemented no later than November 15, 1996.

Incentives/Disincentives Offered by Employers

Incentives/disincentives offered by employers include:

- carpool programs instituted by the company
- parking controls
- travel allowances
- preferential parking for ridesharers
- financial incentives to alternate transportation users
- guaranteed ride home programs.

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[39]Epstein and Driscoll, 1992.

Appendix F:
Regulation XV

Regulation XV

What is it?

Regulation XV, also known as "the commuter program," is one element of Southern California's air quality management plan. Adopted in December 1987 by the South Coast Air Quality Management District (SCAQMD), Regulation XV is aimed at reducing pollution due to transportation in Southern California, the Los Angeles area in particular.

The program requires employers to "encourage their employees to consider alternatives to driving alone to work, such as public transit, carpooling, vanpooling, walking, telecommuting, and cycling."[40] The regulation directs organizations, both public and private, with more than 100 employees at any particular site to submit a plan for increasing their average vehicle ridership (AVR) one year from the time their plan is accepted by SCAQMD. The AVR is determined by the individual employers, who survey their workforce. Seventy-five percent (or more) of the workforce must reply to the survey. The AVR is then determined by the number of employees arriving at work between 6:00am and 10:00am, divided by the number of motor vehicles driven by these employees.

The target AVR for companies located within the Los Angeles area is 1.75, while the target for outlying areas is 1.3. Each work site is also required to have a trained "employee transportation coordinator."

Compliance with the Regulation

Regulation XV does not mandate any specific plan that the employers must follow to increase AVR; employers can choose however they wish to increase AVR, subject to the approval of SCAQMD. Employers are fined if they ignore the regulation and neglect to implement any sort of plan to increase the AVR. Employers that implement unsuccessful plans, however, are not penalized.

SCAQMD conducts random audits of organizations to ensure that they are actually implementing their plans. "AS of August 16, 1991, some 209 employers had been notified that they were in violation of Regulation XV. Of these 209 cases, some 98 have been settled with fines totaling more than $1,600,000,"[41] an average of almost $7,700 per employer.

Incentives/Disincentives Offered by Employers

Incentives/disincentives offered by employers include:

- preferential parking for ridesharers
- financial incentives to public transportation users
- guaranteed ride home programs.
- promotional prize drawings for ridesharers
- installation of showers and lockers for cyclists
- parking fees for drivers.

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[40]Wachs, Martin and Giuliano, Genevieve, "Regulation XV: Beginning to Show Results." *ITS Review*, Vol. 15, No. 1, November 1991, pg. 4.
[41]Wachs, Giuliano, Ibid.

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